

FOR
RICHER
FIELDS

Croplife®

WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 2

Subscription Rates:
\$5 for 1 year, \$9 for 2 years

JULY 18, 1955

Acceptance under Section 34.64,
P. L. and R. authorized.

Shell Chemical to Build Urea Plant in California

NEW YORK—Shell Chemical Corp. is planning to build a new urea plant at Ventura, Cal., according to an announcement by George B. Monkhouse, vice president. It will be the first urea plant west of the Rockies. Construction will start soon, and the plant will be in operation by September 1, 1956, Mr. Monkhouse said.

The new plant will have a capacity of more than 100 tons daily. It will secure its raw materials, ammonia and carbon dioxide, from the adjoining shell plant at Ventura. The M. W. Kellogg Co. has been selected as the contractor. The manufacturing process has been licensed from Montedison.

"We feel that the addition of urea facilities enables us to offer the western farmer high analysis fertilizer to meet every need," Mr. Monkhouse said, pointing out that Shell Chemical has been serving the farmers of the west with anhydrous ammonium sulfate for more than 20 years.

Reichhold to Build Sulfuric Acid Plant

TUSCALOOSA, ALA.—Reichhold Chemicals, Inc. has announced plans to build a 100-ton sulfuric acid plant here.

P. J. Ryan, vice president in charge of the Southern Division, reported that construction is expected to start within 60 days with completion expected about next March 1.

Inside You'll Find

Insect Notes	4
Over the Counter	9
Field Notes	9
Scarc & Pat	10
What's New	12
World Report	18
Editorials	22
Index of Advertisers	23
Meeting Memos	23

Harmonious Meeting Charts Smoother Path for Pesticide Sales for Grain Sanitation

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—Representatives and observers of the pesticide and chemical industry sat in on open sessions here recently as the United States Department of Agriculture Extension Service held a full dress rehearsal on the grain sanitation campaign.

No immediate sales opportunities for the pesticide or chemical industry were disclosed but the amicable climate between the govern-

Miller Law Activity Picks Tempo; FDA Lowers Filin

Activity concerned with the mechanics of the Miller Law is picking up tempo as the July 22 deadline for the act to go into effect approaches. Recent developments, reported below, include filing of petitions for tolerances or exemptions, a lowering of fees being charged manufacturers for registering products, and a report of a

citizens committee which recommends some steps to keep pace with the new law will bring. For recent developments under the Miller Law, which provides for the establishment of a tolerance for agricultural chemicals, see CropLife, June 27, Feb. 14 and Jan. 31 issues.

— PETITIONS —

WASHINGTON—A consequential number of petitions for tolerances and exemptions from tolerances for pesticide chemicals are being received at Food and Drug Administration headquarters here, apparently to beat the July 22 deadline. The large number may delay prompt action on such applications, FDA officials declare. However, they are being processed as rapidly as possible.

Among such applications for exemption is one from the Food Machinery and Chemical Corp., Middleport, N.Y., requesting that the pesticidal chemical, allethrin be exempted from tolerance requirements when used in the production of fruit and vegetable crops.

Allethrin is a product originally developed in cooperation with the United States Department of Agriculture.

(Continued on page 17)

— FEES —

WASHINGTON—Food and drug administrator has acted to correct inequities regarding payment of fees by pesticide manufacturers requesting exemptions from tolerance already established for certain products under provisions of the Miller Law.

In explaining the changes, George P. Lerrick, FDA commissioner, said this action reduces the fee deposit required under the Miller Act in application for a pesticide tolerance. The reduction is from the original rate of \$500 to a total of \$100 in applications for exemptions from requirement of a tolerance and amendment or repeal of a tolerance.

Going further, the commissioner commented that when the regulation was originally issued some intricate

(Continued on page 17)

— CITIZENS —

WASHINGTON—A citizens committee which recommends some steps to keep pace with the new law will bring. For recent developments under the Miller Law, which provides for the establishment of a tolerance for agricultural chemicals, see CropLife, June 27, Feb. 14 and Jan. 31 issues.

The recommendation was made by Oveta Culp Hobby, health, education and welfare secretary.

The committee recommended that the new law be delayed until after the 1957 Pesticide Act is passed. The commission agreed.

"Obtain facts," the commission said, "the development of analytical techniques and quantitative methods."

"Work with reasonable levels, much developed laboratory," the commission said.

"Inform it application of the new law," the commission said.

The commission group appointed three of this year's members in FDA and other government departments in the Drug and Cosmetic statutes.

Phillips
Chemical
Anhydride

BARTLESVILLE—Construction of Phillips Anhydride plant in Bartlesville, Okla., which will cost \$10 million, is progressing rapidly. The plant, which will be owned by the company, is being built by the company's subsidiary, Phillips Petroleum Company, and will be located on the site of the company's existing plant in Bartlesville.

The initial plant will produce hydrous ammonia and demands in the market for the company's products.

The initial plant will produce hydrous ammonia and demands in the market for the company's products.

The initial plant will produce hydrous ammonia and demands in the market for the company's products.

The initial plant will produce hydrous ammonia and demands in the market for the company's products.

Pakistan Issued \$1,046,452 Grant For Construction of Fertilizer Factory

WASHINGTON—Issuance of a \$1,046,452 authorization to Pakistan for equipment for a fertilizer factory was announced recently by the International Cooperation Administration.

The announcement also included a fertilizer materials authorization for Liberia and two pesticide authorizations for Pakistan.

The ICA announcement, dated July 8, was for procurement authorizations issued by Foreign Operations Administration prior to June 30.

Procurement of the Pakistan fertilizer factory equipment will be carried out through the Pakistan Industrial Development Corp. The contract period ends next March 31, with ending delivery date Aug. 31, 1957.

The authorization includes: iron and steel mill materials, \$125,000; miscellaneous iron and steel manufactures, \$61,000; electrical apparatus, \$300,000; engines and turbines, \$61,000; construction, mining and conveying equipment, \$61,000; industrial machinery, \$183,502; miscellaneous project items, \$87,950, and ocean transportation \$167,000.

The two Pakistan pesticide authorizations are for \$60,875 and \$7,600. Contract period for both ends Sept. 30, with ending delivery date Dec. 31. Procurement of both will be carried out through the Pakistan Ministry of Industries, Department of Supply and Development.

The Liberia authorization for fertilizer materials, which is for \$2,124, will be carried out through the Emergency Procurement Service of the General Services Administration. Ending delivery date is Sept. 30.

Ark-Mo Plant Food Co. Buys Fertilizer Firm

BLYTHEVILLE, ARK.—The Ark-Mo Plant Food Co., Inc. has purchased the Blytheville Fertilizer Corp. plant here and will continue its operation.

FOR
RICHER
FIELDS

Croplife®

PUBLISHED
EVERY
MONDAY

WEEKLY NEWSPAPER FOR THE FARM CHEMICAL MANUFACTURER, FORMULATOR AND DEALER

Published by The Miller Publishing Co., Minneapolis, Minn.

Vol. 2

Subscription Rates:
\$5 for 1 year, \$9 for 2 years

JULY 18, 1955

Acceptance under Section 34.04,
P. L. and R. authorized.

No. 29

Shell Chemical to Build Urea Plant in California

NEW YORK—Shell Chemical Corp. is planning to build a new urea plant at Ventura, Cal., according to an announcement by George B. Monkhouse, vice president. It will be the first urea plant west of the Rockies. Construction will start soon, and the plant will be in operation by September, 1956, Mr. Monkhouse said.

The new plant will have a capacity of more than 100 tons daily. It will secure its raw materials, ammonia and carbon dioxide, from the adjoining shell plant at Ventura. The M. W. Kellogg Co. has been selected as the contractor. The manufacturing process has been licensed from Montedison.

"We feel that the addition of urea facilities enables us to offer the western farmer high analysis fertilizer to meet every need," Mr. Monkhouse said, pointing out that Shell Chemical has been serving the farmers of the west with anhydrous ammonium sulfate for more than 20 years.

Reichhold to Build Sulfuric Acid Plant

TUSCALOOSA, ALA.—Reichhold Chemicals, Inc. has announced plans to build a 100-ton sulfuric acid plant here.

P. J. Ryan, vice president in charge of the Southern Division, reported that construction is expected to start within 60 days with completion expected about next March 1.

Inside You'll Find

Insect Notes	4
Over the Counter	9
Field Notes	9
Scar & Pat	10
What's New	12
World Report	18
Editorials	22
Index of Advertisers	23
Meeting Memos	23

Harmonious Meeting Charts Smoother Path for Pesticide Sales for Grain Sanitation

By JOHN CIPPERLY

Croplife Washington Correspondent

WASHINGTON—Representatives and observers of the pesticide and chemical industry sat in on open sessions here recently as the United States Department of Agriculture Extension Service held a full dress rehearsal on the grain sanitation campaign.

No immediate sales opportunities for the pesticide or chemical industry were disclosed but the amicable climate between the government

Miller Law Activity Picks Up Tempo; FDA Lowers Filing Fees

Activity concerned with the mechanics of the Miller Law is picking up tempo as the July 22 deadline for the act to go into effect approaches. Recent developments, reported below, include filing of petitions for tolerances or exemptions, a lowering of fees being charged manufacturers for registering products, and a report of a

citizens committee which recommends that FDA take some steps to keep pace with the increased workload that the new law will bring. For recent stories on the Miller Law, which provides for the establishment of tolerances for agricultural chemicals, see page 1 of the July 11, June 27, Feb. 14 and Jan. 31 issues of Croplife.

— PETITIONS —

WASHINGTON—A consequential number of petitions for tolerances and exemptions from tolerances for pesticide chemicals are being received at Food and Drug Administration headquarters here, apparently to beat the July 22 deadline. The large number may delay prompt action on such applications, FDA officials declare. However, they are being processed as rapidly as possible.

Among such applications for exemption is one from the Food Machinery and Chemical Corp., Middleport, N.Y., requesting that the pesticidal chemical, allethrin be exempted from tolerance requirements when used in the production of fruit and vegetable crops.

Allethrin is a product originally developed in cooperation with the United States Department of Agri-

(Continued on page 17)

— FEES —

WASHINGTON—Food and drug administrator has acted to correct inequities regarding payment of fees by pesticide manufacturers requesting exemptions from tolerance already established for certain products under provisions of the Miller Law.

In explaining the changes, George P. Lerrick, FDA commissioner, said this action reduces the fee deposit required under the Miller Act in application for a pesticide tolerance. The reduction is from the original rate of \$500 to a total of \$100 in applications for exemptions from requirement of a tolerance and amendment or repeal of a tolerance.

Going further, the commissioner commented that when the regulation was originally issued some intrica-

(Continued on page 17)

— CITIZENS GROUP —

WASHINGTON—A citizens advisory committee has recommended a series of steps to enable the Food & Drug Administration to keep pace with the anticipated increased workload expected to result from the recent Pesticide Amendment (Miller Law).

The recommendations are included in a report by the committee, which was made public recently by Mrs. Oveta Culp Hobby, secretary of health, education and welfare.

The committee advised that: "In view of the anticipated increased workload which the recent Pesticide Amendment will undoubtedly impose upon the FDA, it is recommended that the administration:

"Obtain facilities and personnel for the development of competent analytical techniques, both qualitative and quantitative."

"Work with industry to define reasonable and realistic toxicity levels, much of which can only be developed through time-consuming laboratory and clinical tests."

"Inform its field personnel in the application of the standards."

The committee was a 14-member group appointed by Mrs. Hobby Feb. 3 of this year to study the activities of FDA and to recommend improvements in enforcement of the Food, Drug and Cosmetic Act and related statutes.

Phillips Pacific Chemical to Build Anhydrous Plant

BARTLESVILLE, OKLA.—Formation of Phillips Pacific Chemical Co. which will construct an ammonia fertilizer plant in southeastern Washington has been announced by K. S. Adams, chairman of Phillips Petroleum Co., and Ray C. Fish, chairman of Pacific Northwest Pipeline Corp., which companies will jointly own the newly-formed company.

The initial unit of the new plant will produce 200 tons daily of anhydrous ammonia to serve fertilizer demands in the Intermountain, Inland Empire and Pacific Northwest regions. Phillips Pacific Chemical Co. has made arrangements with Pacific Northwest Pipeline Corp. for a natural gas supply of 15 million cubic feet per day for use as

(Continued on page 8)

ment officials and all phases of the grain warehousing, handling and grain processing industries appeared to chart for the future a comfortable course for the producers, distributors and manufacturers of grain protectants, fumigants and rodenticide products.

How far distant is this prospective market is not clearly measurable at this time. As of June 30, 1955 Commodity Credit Corp. is absorbing the out-of-pocket loss on farm stored wheat, oats, barley and grain sorghum.

(Continued on page 21)

Ark-Mo Plant Food Co.

Buys Fertilizer Firm

BLYTHEVILLE, ARK.—The Ark-Mo Plant Food Co., Inc. has purchased the Blytheville Fertilizer Corp. plant here and will continue its operation.

Hercules Powder Plans to Erect New PE Plant

WILMINGTON—Hercules Powder Co. has announced plans to start immediate construction of a new plant for the production of pentaerythritol (PE), representing a total investment of approximately \$6 million.

Completion of this plant, scheduled for late next year, will make Hercules the world's largest producer of PE, doubling the company's present annual capacity, the firm stated.

Located in the Midwest, on the site of an existing Hercules anhydrous ammonia plant at Louisiana, Mo., the plant will have an annual production of 24 million pounds of PE and 100 million pounds of formaldehyde, a basic raw material for PE.

Anhydrous ammonia will continue to be produced at the plant at the current rate of 40,000 tons a year, for agricultural and industrial users.

Hercules bought the government-owned Missouri Ordnance Works at Louisiana early in 1954, and by June 30 of that year had started production of anhydrous ammonia, naming its new plant the Missouri Ammonia Works.

At that time, Dr. Wyly M. Billing, general manager of the company's Synthetics Department, made public plans for an engineering survey to use part of this plant for the production of formaldehyde and PE.

FHA INTEREST RATE

WASHINGTON—The interest rate on all Farmers Home Administration emergency loans made on or after July 7 will be 3%, the U.S. Department of Agriculture has announced.

Irvin W. Bales New Vice President Of Chipman Chemical

BOUND BROOK, N.J.—The Chipman Chemical Co., Inc., Bound Brook, N.J., has announced that Irvin W. Bales has been elected a vice president of the company.

Mr. Bales will continue as director of research and technical service, also in general charge of new products development.

J. A. Noone, NAC Technical Adviser, in Hospital in Washington

WASHINGTON—J. A. Noone, National Agricultural Chemicals Assn. technical adviser and right hand man of Lea S. Hitchner, NAC executive secretary, is in a hospital here, temporarily out of action.

Latest reports say that he is sitting up and taking nourishment, but that it will some time before he is back at his desk.

Reporting from NAC, officials say that Mr. Noone just gave way under the pressure of hard and diligent work and landed up in the hospital.

Friends of Mr. Noone can cheer him up with a card or letter addressed to the NAC, 1145-19th St. N.W., Washington 6, D.C.

L. E. Little to Retire From E. Rauh & Sons

INDIANAPOLIS—E. Rauh & Sons Fertilizer Co. here has announced that Leslie E. Little has elected to retire as director and vice president—production of the corporation, effective on or before Oct. 31, 1955. Mr. Little has served with the corporation 30 years.



Gerard J. Carney

Gerard J. Carney Appointed to IMC Marketing Staff Post

CHICAGO—Gerard J. Carney has been appointed marketing staff manager of the Plant Food Division of International Minerals & Chemical Corp., according to an announcement by Maurice H. Lockwood, vice president in charge of the division. His headquarters will be in the Chicago offices of the corporation, and he will report directly to Mr. Lockwood.

Mr. Carney has been vice president and general sales manager of the Dayton (Ohio) Pump and Manufacturing Co. His business career has also included sales management responsibilities for farm and garden equipment with Lodge & Shipley Co. of Cincinnati, and with Procter & Gamble on the West Coast.

Monsanto Announces New Positions in Merchandising Division

ST. LOUIS—Establishment of two new positions in the sales organization of Monsanto Chemical Co. Merchandising Division was announced here recently by Edward L. Hodge, general manager of sales to the division.

John A. Heenan of New York has been appointed eastern regional sales manager for the division, with headquarters in New York, and Robert Lawrence of Columbus, Ohio has been appointed western regional sales manager, with headquarters in St. Louis.

Mr. Hodge also announced establishment of a Kansas City, Mo., sales district for the division.

In his new assignment, Mr. Heenan will be responsible for over-all sales activities of the New York, Boston, Philadelphia, Atlanta and Columbus districts. Mr. Lawrence will have the same responsibilities for activities of the Chicago, Dallas, Los Angeles, San Francisco and Kansas City districts.

Edward P. Heath of New York who has been serving on the New York district sales staff, will succeed Mr. Heenan as manager of that district. Tom S. Reed of Columbus, Ohio, will succeed Mr. Lawrence as manager of the Columbus district. The newly established Kansas City district has been assigned to John P. Ferguson, Jr., who has been a member of the Dallas district sales staff.

SCHOOL CHANGES ITS NAME

EAST LANSING, MICH.—Michigan State College of Agriculture and Applied Science has become Michigan State University of Agriculture and Applied Science, as of July 1, 1955.

William C.
Be Exe
f Olin M

NEW YORK—V
er deputy sec
president of
chemists' Assn., I
cutive vice pres
thieson Chem
ounced July 1
hols, president
Mr. Foster wil
ies, with headq
thieson New
g. 1. He had
MCA president

The new Olin M
had completed
government se
as deputy
in January
CA's first ful

reviously Mr.
d of the Ma
in rank and
ator for econ
er secretary of
United States spe
Europe for EC
ambassador extra
entiary, and de
ECA.

uring World War
various posts, con
the purchase of
ce Forces. He
U.S. medal for
partment Com
National Civilian
ense Departm
recognition for
Service.

Mr. Foster car
in business h
merly been
ssed and Wel
of Long Isla
rector of that
es.

He is a mem
Advisory Council
Commerce, a
member of the R
Committee of t
conomic Develop

John B. Dav
named Pres
safety Equip

PITTSBURGH
anager of indu
Appliance
lected pres
al Safety Equi
up's recent an
Mr. Davies, a r
a veteran of
graduate of Ca
chnology. He
a chemist in 1
company was
ing his pre
ries was assist

PENCO'S ALMANAC

Control Cotton Insects with PENCO Insecticides

PENNNSALT, a basic chemical manufacturer with local plants at Bryan, Texas, and Montgomery, Alabama, plus conveniently located warehouse points, assures a quick source of supply for major cotton growing areas of the South.

PENCO BHC-DDT Cotton Dusts and Sprays made from High Gamma BHC and DDT are of uniform high quality for effective and economical control

plus

Other popular Cotton Insecticides to include
Calcium Arsenate and formulations of
Toxaphene Dieldrin
Aldrin Endrin

You're right — you know — with PENCO

AGRICULTURAL CHEMICALS SOUTHERN DIVISION

Box 153
Bryan, Texas
Phone: LD-2

Box 1206
Montgomery, Ala.
Phone: 3-0513



**Pennsalt
Chemicals**

19 AUG. 55						
SUN.	MON.	TUES.	WED.	THUR.	FRI.	SAT.
3 FULL MOON	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31	10 LAST QUARTER	17 NEW MOON	25 FIRST QUARTER

PENNSYLVANIA SALT MANUFACTURING CO. OF WASHINGTON

Tacoma 1, Washington

Portland, Ore.; Berkley, Calif.; Los Angeles, Calif.; Bryan, Tex.; Montgomery, Ala.; Aurora, Ill.; Philadelphia, Penn.; Wenatchee and Yakima, Wash.



William C. Foster

William C. Foster To Be Executive of Olin Mathieson

NEW YORK—William C. Foster, former deputy secretary of defense and president of the Manufacturing Chemists' Assn., Inc., will become an executive vice president of Olin Mathieson Chemical Corp., it was announced July 12 by Thomas S. Hols, president.

Mr. Foster will assume his new duties with headquarters in the Olin Mathieson New York offices on July 1. He had previously resigned as MCA president effective July 31.

The new Olin Mathieson executive had completed nearly 11 years of government service when he was named as deputy secretary of defense in January 1953, to become MCA's first full time president.

Previously Mr. Foster served as director of the Marshall Plan with the rank of administrator for economic cooperation; as secretary of commerce; as deputy United States special representative in Europe for ECA, with the rank of ambassador extraordinary and plenipotentiary; and as deputy administrator of ECA.

During World War II he served in various posts, concluding as director of the purchases division, Army Service Forces. He has been awarded the U.S. medal for merit, the War Department Commendation for Exceptional Civilian Service, and the Defense Department Certificate of Appreciation for Distinguished Civilian Service.

Mr. Foster came to government from business in 1942. He had formerly been president of the Pressed and Welded Steel Products Co. of Long Island City, N.Y., and director of that and other corporations.

He is a member of the Business Advisory Council of the Department of Commerce, and a trustee and member of the Research and Policy Committee of the Committee for Economic Development.

John B. Davies Named President of Safety Equipment Group

PITTSBURGH—John B. Davies, manager of industrial sales, Mine Safety Appliances Co., Pittsburgh, was elected president of the Industrial Safety Equipment Assn. at the group's recent annual meeting.

Mr. Davies, a native of Pittsburgh and a veteran of World War I, is a graduate of Carnegie Institute of Technology. He joined Mine Safety as a chemist in 1919, five years after the company was founded. Before assuming his present position, Mr. Davies was assistant sales manager.

Fertilizer Returns \$5.55 For \$1 in Cotton Plots

STILLWATER, OKLA.—In Oklahoma A&M College tests in 1954 cotton plots that were not fertilized produced an average yield of 200 lb. lint cotton, while the fertilized plots produced 291 lb.

This increase of 91 lb. was produced at an average fertilizer cost of \$4.78, resulting in an increase in net profit of \$21.80 an acre. This is a return of \$5.55 for each \$1 invested in fertilizer.

ASC APPOINTMENT

WASHINGTON—Ezra Taft Benson, secretary of agriculture has announced the appointment of James L. Morgan of Waynesboro as chairman of the Georgia State Agricultural Stabilization and Conservation Committee. John F. Bradley of Chatsworth, former chairman, has been appointed administrative officer by the state ASC committee.

Northwest Plant Food Group Names New Committeeman, Honorary Members

BOISE, IDAHO—The board of directors of the Pacific Northwest Plant Food Assn. met here during the annual recent Pacific Northwest Fertilizer Conference. The board approved appointment of Thomas Jackson of Oregon State College as a member of the Soil Improvement Committee, replacing Dr. A. Halverson, now in the middle west.

The board also decided to make an award as man of the year to the person contributing most to the fertilizer industry of the Pacific Northwest during the current year. Sid Martin, president, appointed a secret committee, and the award will be presented at the annual convention to be held at Bend, Oregon, Nov. 2-3.

The board also elected as honorary members for service to the association in the past year: B. R. Bertramson, Washington State College; R. A. Pendleton, Oregon State College; C. O. Baker and C. G. Painter, University of Idaho; Nels Benson, Fruit Tree Experiment Station, Wenatchee, Washington; Frank Viets, agronomist, Prosser, Washington; Thomas Jackson, Oregon State College; Dr. Horace Cheney, Oregon State College; Leroy Warner, Pendleton Grain Growers; R. L. Hausenbauer, Washington State College, and Earle Shaw, Chilean Nitrate Sales Corp., Los Angeles.

For a report of the Pacific Northwest Fertilizer Conference, see page 1 of the July 11 issue of Croplife.

HORACE H. SILLIMAN DIES

BOSTON—Horace H. Silliman, sales manager of Jet Spray Corp., Boston, died recently at the age of 61.

NITROGEN FERTILIZER MATERIALS

AVAILABLE IN THE COMING FERTILIZER SEASON

FROM

PENSACOLA, FLORIDA

PRODUCED BY

ESCAMBIA BAY CHEMICAL CORPORATION



Escambia Bay Chemical Corporation

is owned by United Gas Pipe Line Company

ANHYDROUS AMMONIA • AMMONIUM NITRATE • AMMONIATED NITROGEN SOLUTIONS • NITRIC ACID

PLEASE ADDRESS ALL COMMUNICATIONS TO

ASHCRAFT-WILKINSON CO.

EXCLUSIVE DISTRIBUTORS

ATLANTA, GA., CABLE ADDRESS ASHCRAFT

NORFOLK, VA., CHARLESTON, S. C., TAMPA, FLA., JACKSON, MISS., COLUMBUS, OHIO

INSECT, PLANT DISEASE NOTES

Grasshoppers Reported In Minnesota Alfalfa

ST. PAUL, MINN.—One-third grown red legged grasshoppers have been found in large numbers in second crop alfalfa in wide areas of Minnesota by entomologists. Few adults have been noted. Infestations in small grain crops are generally light to date. Flax is a likely target for hoppers, however.

Pea aphids have been reported more abundant in alfalfa than normal in northwestern, west central and south central Minnesota.

Populations of the corn leaf aphid and English grain aphid are reported down from previous checks. Reports of presence or injury by armyworms have also diminished.

The first apple maggot flies have emerged in southeastern Minnesota and the jack pine bud worm adult moths have been noted in the Brainerd area, although not too abundantly as yet. Few corn borer eggs are being found on field corn and egg deposition seems essentially complete. Shot-holing of corn plants is becoming more general, however.

Leafhoppers Pose Threat For Alfalfa in Maryland

COLLEGE PARK, MD.—Leafhopper populations are still low on alfalfa, but may increase due to warm weather. For treatment use 1 qt. methoxychlor per acre, in 10 to 20 gal. water.

A few alfalfa weevil larvae were obtained by sweeping alfalfa near Cresaptown in Allegany County. This is the first time the weevil has been found in this county.

Grasshoppers also probably will increase due to the warm weather. If they become troublesome, use aldrin or heptachlor.

The second brood of European corn borer is now making its appearance. During the next two weeks, corn growers should keep a close watch for eggs. Unsprayed potatoes and very early planted sweet corn in some communities have from 30% to 60% of the plants infested. Corn earworms were found in light numbers in Montgomery County.

Damage to tobacco by small hornworms was found in Prince George's County. Growers are ap-

plying insecticides. TDE (rhothane) as a spray or dust should be used.

Snap and lima beans in the Cumberland area are being damaged by the Mexican bean beetle. Potato leafhoppers were abundant on potatoes in Prince George's County. Hopperburn was evident.—Theo. L. Bissell and Wallace C. Harding.

Tennessee Boll Weevils, Bollworms in Action

KNOXVILLE, TENN.—Only a few boll weevil punctured squares have been found in west Tennessee so far. The fields where there is some weevil sign are in those counties just north of the Mississippi state line. Infestations did not exceed 2% in any field surveyed. These infestations were confined to the older cotton.

Bollworms are being found feeding on the squares in the older cotton. Infestations are very light at this time; the heaviest population did not exceed 2% for all infested fields. Populations are expected to build up as cotton puts on more growth. Early detection is necessary in effective control of this pest.

Light populations of thrips over all the cotton growing area have caused slight damage to terminal growth. Fleahoppers are damaging young squares in some fields to the extent that control measures should be taken. The heavier infestations are spotted over the area but some fleahoppers can be found in most fields.

Scattered light infestations of plant bugs have been found. Damage is very light in infested fields. There is a possibility of some damage if the infestations build up along with the fleahoppers on the young squares. Fleabeetles are present in small numbers in most fields. No damage was found. Aphids are very light over all the area. Predators are numerous.—R. P. Mullett.

Cotton Insect Count Up in South Carolina

CLEMSON, S.C.—Extension specialists state that boll weevils are rapidly increasing in all counties of South Carolina. Bollworms are reported increasing in a number of

counties. Spider mites are reported in several Pee Dee Counties. While thrips are now decreasing, their damage, along with cool weather, has delayed cotton growth, especially in Piedmont counties.

Reports show that the application of insecticides will help control insects. Entomologists estimate that approximately 288,000 acres in the 37 counties were treated during the week to bring the total of treated acres to date up to 399,000 acres in these counties.

The estimated average infestation in the treated fields is given as 7% as compared to 23% in the fields where no applications have been made. In some untreated fields the infestation is reported to be as high as 73 to 78%.

Prompt and thorough applications of recommended insecticides are urged. Growers are advised to make checks of their individual fields to determine the insect situation.

The stage of cotton growth is such that in Coastal Plains counties growers should make applications on a five-day schedule, while in the Piedmont counties the applications should be made on a seven-day schedule.

Cotton Insects Continue Damage in Georgia

ATHENS, GA.—Boll weevil and bollworm damage continues to get the most attention from Georgia cotton growers.

Eighty fields in 20 middle and south Georgia counties were inspected for boll weevil last week. Weevil infestations were found in 76 of these fields.

Twelve untreated fields were examined and all were weevil infested. Counts ranged from 6 to 30% with an average of 11% punctured squares.

Sixty-eight treated fields were examined and 64 were infested with the boll weevil. Counts ranged from 0 to 8% with an average of 3% punctured squares.

Terminal bud inspections in 20 fields showed a range of 0 to 11 bollworm eggs per 100 terminals with an average of 2.8 and a range of 0 to 7 small bollworms, with an average of 1.9 per 100 terminals.

Bollworm injured squares averaged

0.93% in untreated fields and 0.3% in treated fields.

Very light to light aphid infestations were observed in 10 fields. Very light to light spider mite infestations were found in 11 fields. Serious spider mite infestations are occurring in Peach and Jackson counties.—C. Jordan.

Blue Mold Found In Connecticut Areas

STORRS, CONN.—Blue mold now present in at least two commercial shade tents in the area west of the Connecticut River. There are probably others. One 10-acre field had scattered lesions throughout with two tents (33x33 ft. area) showing heavy infection. About 90% of the lesions appeared killed by weather. Approximately 5% of the lesions had produced fresh spores the morning of checking. Cool nights with fog and scattered showers kept the infection active.

Field infection has been reported on Broadleaf near an infected seedbed.—G. S. Taylor.

Hopper Damage Mounts In Missouri Fields

COLUMBUS, MO.—Heavy damage from grasshoppers is beginning to be common. Clover and alfalfa are being stripped and ragging of corn around the edges of fields is becoming more noticeable.

Crops will suffer considerable damage unless more spraying is done. Farmers find it is virtually impossible to protect any individual field by spraying that field only. It is usually necessary to spray the entire field—usually pasture or waste land—where hoppers are coming from.

A few scattered infestations of chinch bugs are being found. There is a concentration in the Booth area. A number of webworm moths are flying in alfalfa fields. Webworms may show up any time.

Reports of the green-striped man-of-war stripping soft maples have been made.—Stirling Kyd and G. W. Thomas.

Borer Egg-Laying Complete in Illinois

URBANA, ILL.—Corn borer egg laying in Illinois seems to be about complete.

All sizes of borers can be found and they have begun to migrate over the plants and burrow in the stalks. Insecticide application will reach only a few of the borers that have already tunneled into the stalk, but they will still kill borers in the midribs and lower axils.

Reports of chinch bug infestations in fields of corn where rye, barley or some other small grain was planted under late this spring have been made. In these cases the bugs remained on the grain straw and eventually crawled upward onto the corn.

Some actual migrations have occurred from barley, rye, wheat and occasionally oat fields into corn fields. Although most of them are of minor importance in most instances, a few heavy migrations have occurred and control measures have been necessary.

Grasshopper abundance is reported in various areas of Illinois.—H. Petty.

New Jersey Reports Codling Moth Activity

NEW BRUNSWICK, N.J.—Codling moth (second brood) emergence in south New Jersey is beginning. Moth activity is being noted. The amount of spraying necessary depends on first brood activity.

The majority of second brood

it's the New BULKMOBILE

WITH THE SELF-SUPPORTING BULK BODY
THAT NEEDS NO TRAILER FRAME



WRITE for new BULKMOBILE Bulletin A-399



BAUGHMAN MANUFACTURING CO., Inc.
108 Shipman Road • Jerseyville, Ill.

5 METHODS of DISCHARGE



Designed to Carry the
BIG LOADS...at BIG SAVINGS

- All-Hydraulic Operation or Gasoline Engine
- Rapid Discharge
- Compartmented Interior
- Self-Supporting Body
- Roomy Hatches
- BIG Capacity
- With or without Roof

of the red banded leafroller now out. Maggot flies continue active, particularly in northern Jersey.

date only appreciable corn worm damage on ears has been large larvae entering through side and silks. Very few eggs have been reported on silks but female moths are now in the area. Corn sapbeetle eggs have been found in silks. Corn borer are maturing with many 5th larva present.

Surveys in Salem County during the past week show a number of fields (both block plants and corn) with 0.5% or less of wilt. In the Keyport area of south County, bacterial canker of tomatoes is reported. This second year it has been present on farm and the first year for grower. Damage was most severe on high, sandy knolls. A report from Virginia claimed a few to fruit with late blight in the vicinity of infected potato fields.—G. Merrill, Jr., and Spencer Davis, Jr.

Thrips Injury Evident on Arizona Cotton

PHOENIX, ARIZ.—Thrips injury to cotton fields in Arizona is very evident in fields where controls were practiced.

Lygus and other sucking insect populations have been found in Maricopa County running from 1 to 10% per 100 sweeps.

Pinal County, black fleahoppers, brown fleahoppers, and Lygus counts from 0 to 16 per 100 sweeps. This was particularly true in the field and Maricopa areas. A few worms were also found, mostly the second instar, in Pinal County. Fleahoppers, bollworms and aphids in large enough numbers to warrant controls have been found in Maricopa County. Leafroller damage is severe in the Deer Valley and Glendale areas of Maricopa County.

The cotton leaf perforator is causing some concern in Yuma County as well as in the San Luis area of Mexico.

Spartine leaf miners are causing concern in Maricopa and Pinal counties. Some growers feel that controls are necessary, however, in most instances, no controls are needed.—Roney.

Alfalfa Weevil Infests Fields in Colorado

MONT COLLINS, COLO.—Heading the current farm insect situation in Colorado is a new infestation of alfalfa weevil.

This pest has made its appearance for the first time in Otero County in the Arkansas Valley. The Colorado Pest Detection Committee reports the weevil has never before been found in this important alfalfa-producing area.

So in the Arkansas Valley to psyllid nymphs and eggs are found in high numbers on most crops. The psyllids are depositing eggs on tomatoes. The eggs of tomato worms have been found in the area.

Another tomato pest, the tomato worm, has appeared in commercial plantings of the crop.

J. L. Daniels, chief entomologist for the Colorado A&M Experiment Station, reports large numbers of aphids on barley, sorghums, and alfalfa throughout eastern Colorado. Recent rains have eased the grasshopper situation.

Corn Borer, Grasshoppers plague Iowa Farmers

AMES, IOWA—The second brood of European corn borer moth flight in northern Iowa is now underway and

is expected to begin in central Iowa July 20 and in northern Iowa July 25.

Book lice are appearing in cribbed corn, shelled corn, and old oats. These minute insects thrive in high temperatures and high humidity. They feed on cracked kernels, but won't cause grain to go out of condition.

Grasshoppers are present, even in northern Iowa. Several pastures averaged 15-25 grasshoppers per square yard. Red legged hoppers ranged from newly hatched to half grown. Differential hoppers ranged from 2nd to 4th instar.

The 4-spotted fungus beetles have made their appearance and plum curculio damage is showing up on apples, plums and peaches. The codling moth has built up because of too great an interval between sprays. Coxcomb gall aphids are abundant on elms in northern Iowa. The insects are protected from insecticides inside the galls. Red spider mites are

serious on evergreens in windbreaks and in yards.

Pea aphids are numerous on alfalfa and clover in northern Iowa. They are preventing normal growth and blossom production.—Harold Gunderson.

Cereal, Forage Crop Insects in Kansas

MANHATTAN, KANSAS—The chinch bug outbreak continues in some central Kansas counties. The bugs are now established in many sorghum and milo fields of Cloud, Saline, Dickinson and Riley counties. Other counties have similar infestations.

Light to severe infestations of grasshoppers were found in Cloud, Jewell, Smith, Phillips, Norton, Osborne, Mitchell, Clay, Riley, Dickinson and Geary counties. Counts in alfalfa fields ranged from 5 to 40 per square yard while wheat stubble and corn fields ranged from 1 to 5 per square yard. In some road-

side ditches and fence rows adjacent to corn fields, counts ranged to highs of 45 per square yard.

Non-economic infestations of yellow clover aphids were found on alfalfa in nearly all north central Kansas counties. This extends the northern distribution to Kansas to include Cloud, Mitchell, Smith, Phillips and Norton counties. Counts ranged from 3 to 15 aphids per sweep.—David L. Matthew.

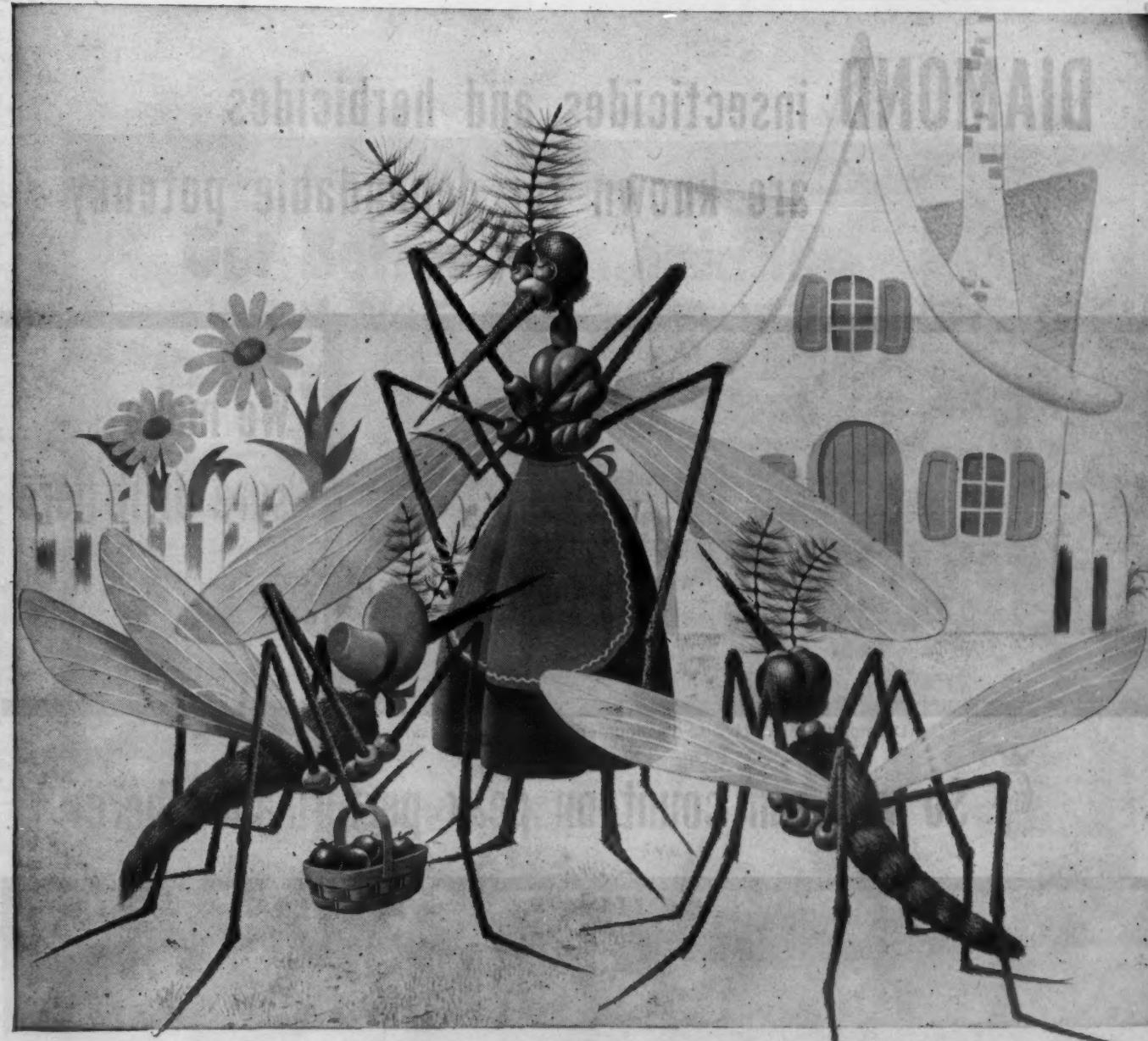
New Mexico Reports

Cotton, Alfalfa Insects

STATE COLLEGE, N.M.—Bollworms are being found in small numbers in Chaves and Dona Ana counties, but survival is very low and damage is light. Predators, such as minute pirate bugs and damsel bugs seem to be keeping them under control at the present time.

Cotton fleahoppers are present in cotton in Dona Ana and Chaves counties, but infestations and damage are

(Continued on page 17)



...but don't go near the dieldrin

LIFE gets riskier every day for mosquitoes and their companion health threats—gnats, ticks, chiggers, fleas, sand flies, and a host of other insect pests—as more and more formulators turn to dieldrin as their number one insecticide.

Mere ounces of dieldrin can kill both adult mosquitoes and larvae over an entire acre of breeding ground. And the killing power stays there for weeks—for months in a sheltered

area such as a barn or shed interior.

For long-lasting control of insects that threaten health and comfort, investigate the important advantages of powerful, new dieldrin. Dieldrin is accepted for use by state and federal authorities. It's backed by the finest of technical service and timely nationwide advertising. Write for latest technical information.

SHELL CHEMICAL CORPORATION

AGRICULTURAL CHEMICALS DIVISION
460 Park Avenue, New York 22, New York



Grasshopper Control Program Completed in New Mexico Area

LOVINGTON, N.M.—The grasshopper hordes which attacked Lea County, N.M. ranches last year were back again in full force this summer. Infestation became so severe that a major program was started June 10 and lasted almost a month.

During this period a converted B-18 twin-engine bomber was used to spray 239,000 acres of grassland. The insecticide used was aldrin applied at the rate of two ounces in a gallon of diesel fuel oil for each acre.

The program was a joint project, with the state and federal governments paying 80% of the cost and the rancher 20%.

About 15 different kinds of grasshoppers were identified, but most of them were of two species. Infestation was heavy on all

ranches, ranging from 30 grasshoppers per square yard up to as many as 150.

Several ranchers on the fringes of the infested area are still skeptical, according to a spokesman in the county agent's office, and did not have their land treated. Since grasshoppers in scattering numbers have always been here, the county agent's office reported, these cattlemen apparently are unaware that a horde of grasshoppers can completely denude a range in a few weeks' time.

The program on the treated grassland has been 95% effective, according to most observers.

Firm Chartered

TOPEKA, KANSAS—The M. K. Chemical Fog Service, Inc., Hutchinson, has been chartered, with capital listed at \$8,000. Incorporators are L. W. Fleming and Betty Jean Fleming of Hoisington and Cora Keitel and Mamie O. Higgins of Hutchinson.

USDA Scientists Identify Tiny Mite As Carrier of Peach Mosaic Disease

WASHINGTON—A mite so small that it cannot be seen without a microscope has been identified as the carrier of peach mosaic disease, the U.S. Department of Agriculture announced recently. The discovery culminates a painstaking 17-year long search for the cause underlying the spread of this destructive virus disease of peaches and other stone fruits from tree to tree and orchard to orchard.

With this new knowledge, department scientists can now seek ways to control the disease by controlling the mite (perhaps with chemical sprays or dusts) that can be substituted for the drastic measures currently in use—removal and destruction of all diseased trees.

Scientists of USDA's Agricultural Research Service who were

responsible for the identification of the tiny destroyer are entomologists Laurence S. Jones and Norval S. Wilson and plant pathologist L. C. Cochran. All are stationed at Riverside, Cal., where they were announced in cooperation with the California Agricultural Experiment Station.

Little has been known about the mite; it may even be new to science. It was first found beneath scale retarded leaf buds on peach and pear trees. The entomologists noted that as shoot growth pushed from buds, loosening and flaring the scales, mites were scattered on wind currents. Peach mosaic virus is transmitted as the mites transfer feeding from infected to healthy trees.

For more than 20 years, peach mosaic has threatened the peach industry in areas of eight Western and Southwestern states. Since 1934, when a cooperative USDA states control program was initiated, more than 400,000 diseased trees, valued at \$10 million, have been removed and destroyed in Arizona, New Mexico, Texas, California, Colorado, Utah, Oklahoma and Arkansas.

Spread of the disease from nursery stock or budwood has been guarded against with a strict cooperative quarantine inspection and certification program.

Discovery of the mite will halt the control program; instead it represents a step forward toward development of control methods other than tree removal and destruction.

Positive determination that the mite can carry peach mosaic came after thousands of tests with more than a hundred other mites and insects. Within two weeks after transfer of the mites from diseased trees in the orchard to healthy trees in the greenhouse, the healthy trees showed symptoms of infection. The role of the mite as the virus vector was further substantiated by taking tissue from the diseased greenhouse trees to other healthy trees. These also became infected.

Although peach mosaic virus is most destructive to peach trees, it also infects plums, prunes, nectarines, almonds and apricots. Identifiable symptoms of the disease include color-breaking in the blossoms; large, pink-flowered varieties; swollen internodes; mottling across the veins in the leaves; delayed blooming, and in some varieties, bumpy fruit.

Lubbock Bag Co. Plans New Addition

LUBBOCK, TEXAS—Bids for a new \$103,000 building addition have been let by the Lubbock Bag Co. The new addition will take in 29,800 ft., and will adjoin the present building which covers about 25,000 sq.

It will not only double the capacity of this company, which makes bags for fertilizers and insecticides, but also will provide enough loading docks to increase the loading capacity from one box car to five. Bids were received June 21 and work is under way on the new construction.

Irrigation Growth

PLAINVIEW, TEXAS—The High Plains of Texas has changed from dryland to irrigation farming in a space of ten years. In 1949, when the irrigation boom was getting into swing, there were only about 12,000 wells. Now the number has risen to 33,537, from which over four million acres of land are irrigated. The main crops irrigated are grain sorghum, cotton, wheat and alfalfa.

DIAMOND insecticides and herbicides are known for dependable potency



Diamond's research and development center in Painesville, Ohio



So you can count on peak performance here



Write for literature on any of our products, and feel free to consult our technical staff when you have special problems. Your inquiries are welcome. DIAMOND ALKALI COMPANY, 300 Union Commerce Building, Cleveland 14, Ohio.



Diamond Chemicals

DIAMOND AGRICULTURAL CHEMICALS

- DDT
- BHC
- LINDANE
- MITICIDE K-101 (Ovex)
- Wettable powders, emulsifiable and oil solutions; and dust concentrates based on our technical grade chemicals
- Seed Disinfectant
- 2,4-D Weed Killers
- 2,4,5-T Brush Killers
- Grain Fumigants

and many other chemicals that help farmers, gardeners, cattlemen and orchardists.

Calspray A
Contract f
Lab. Office

RICHMOND,
er, vice preside
the Research a
partment for th
Chemical Corp.
as announced
tract to Richmon
Co. for the cons
laboratory facili
office space to
research and De
ment of the co
was started on

When finished
ories will be
or developing
effective organi
cals for use
insecticides and
her said.

The new pe
these labs will b
ness on exper
ects and plant
ounced bio-s
which is being
the Standard
ill outside F
page 6 of the J
life.) Calspray
operating comp

The expansio
search and Dev
marks the be
million dollar e
the company w
will also includ
ertilizer plant
quarters for ad
personnel. The
scheduled for co

Fourth Edi
MCA Che
Handbook

WASHINGTON
on of the
Handbook" is
manufacturing
nnounced here.

The 412-page
continuation of the
and formerly t
Figures."

variety of offici
available officia
the chemical a
industries for th
953 with part
six months of

Primarily a
the handbook
ular form such
employment a
rices, tax da
ires, plus fina
chemical proce
953 as compa

Individual c
presented in a
form. A specia
Canadian chem
istics.

The MCA a
plans to issue
the "Chemical
on a semi-annu
year. The sum
ate informati
of inorganic an
well as data o
ours, earnin
production ind
ports.

The "Chem
is published i
the single cop
A special pri
o public and
non-profit inst
should be add
Chemists' St
Street, N.W.,

CROP D
HAMMONT
am, 39, Barr
illed recent
tusting plane

Calspray Awards Contract for New Lab, Office Space

RICHMOND, CAL.—Leo R. Gardner, vice president and manager of the Research and Development Department for the California Spray Chemical Corp., of Richmond, Cal., has announced the award of a contract to Richmond's C. Overaa and Co. for the construction of expanded laboratory facilities and additional office space to be used by the Research and Development Department of the company. Construction was started on the project June 20.

When finished, the new laboratories will be completely equipped for developing safer and more effective organic and inorganic chemicals for use as Ortho fungicides, insecticides and herbicides, Mr. Gardner said.

The new pesticides developed in these labs will be tested for effectiveness on experimental animals, insects and plants at the recently announced bio-screening laboratory, which is being built by Calspray on the Standard Oil Co.'s tank farm mill outside Richmond, Cal. (See page 6 of the July 11 issue of CropLife.) Calspray is one of Standard's operating companies.

The expansion in Calspray's Research and Development Department marks the beginning of a multi-million dollar expansion program by the company which, when completed, will also include a 16-million dollar fertilizer plant and additional new quarters for administrative and office personnel. The entire program is scheduled for completion late in 1956.

Fourth Edition of MCA Chemical Statistics Handbook Available

WASHINGTON—The fourth edition of the "Chemical Statistics Handbook" is now available, the Manufacturing Chemists' Assn., Inc. announced here July 13.

The 412-page publication is a continuation of the series begun in 1940 and formerly titled, "Chemical Facts and Figures." It contains a wide variety of official information and all available official statistics relating to the chemical and allied products industries for the years 1950 through 1953 with partial data for the first six months of 1954.

Primarily a basic reference work, the handbook covers in detailed tabular form such topics as production, employment and wages, wholesale prices, tax data, import-export figures, plus financial records for 100 chemical process companies for 1950-53 as compared with 1939.

Individual chemical production is presented in substantially complete form. A special section is devoted to Canadian chemical and mineral statistics.

The MCA also announced that it plans to issue current summaries of the "Chemical Statistic Handbook" on a semi-annual basis beginning this year. The summary will give up-to-date information on a selected list of inorganic and organic chemicals as well as data on employment, wages, hours, earnings, wholesale prices, production indices, imports and exports.

The "Chemical Statistic Handbook" is published in a limited edition at the single copy price of \$3 postpaid. A special price of \$2.50 is extended to public and school libraries and to non-profit institutions. Inquiries should be addressed to Manufacturing Chemists' Assn., Inc., 1625 Eye Street, N.W., Washington 6, D.C.

CROP DUSTER KILLED
HAMMONTON, N.J.—John Bingam, 39, Barrington, N.J. pilot, was killed recently when his light crop dusting plane crashed near here.

Diamond Alkali Announces Assignment Changes in Field Sales

CLEVELAND—Five assignment changes in the field sales and service organization of Diamond Alkali Co. were announced here July 11 at its national headquarters by W. H. McConnell, vice president—sales.

Robert R. Wood, a member of Diamond's New York sales staff since January, 1949, has been promoted to the position of special staff assistant in the sales department at Cleveland, effective approximately Sept. 1, 1955.

His successor at New York is C. Robert Powell, who has been transferred from Cincinnati, where he is being succeeded by Charles H. Gillespie as sales representative in the Louisville area.

Charles B. Kayser, on Diamond's Cincinnati sales staff since May, 1948, will now represent the company at Columbus, Ohio.

Louis P. Lambros, formerly of

Diamond's central order department at Cleveland, has been named to succeed Mr. Kayser in Cincinnati. These last four changes are effective immediately.

Mr. Wood, a native of Fair Lawn, N.J., joined Diamond following graduation in 1948 with an A.B. degree in chemistry from New York University, College of Arts and Sciences.

Born in Scranton, Pa., Mr. Powell is a chemical engineering graduate (1950) of Pennsylvania State University. He has been affiliated with Diamond at Cincinnati since 1951.

Mr. Gillespie, a native of Fairport Harbor, Ohio, earned an A.B. degree from Colgate University in 1949, then joined Diamond as a chemist, and was later transferred to Cincinnati in a sales capacity.

Mr. Kayser, born in Cincinnati, attended the University of Cincinnati, where he was awarded his B.S. degree in Commerce in 1952. Mr. Lambros, a native of Lakewood, Ohio, joined Diamond in September, 1954, as a staff assistant in the central order department.

Joseph J. Pierre Named Agronomist For Corn Belt Area

URBANA, ILL.—Joseph J. Pierre, Champaign, soil conservationist on the Illinois state staff for the past year and a half, has been named management agronomist for nine corn belt states.

In his new position, Mr. Pierre will be working as a representative of the Washington Plant Technology Division in Illinois, Wisconsin, Minnesota, Iowa, Missouri, Kentucky, Ohio, Indiana and Michigan. He will keep his office in Champaign-Urbana.

In making the announcement, Bruce B. Clark, Illinois state conservationist, says Clarence Mick, former area conservationist at Champaign, will succeed Mr. Pierre as soil conservationist on the state staff of the SCS. Robert Oertel, Decatur area conservationist, will take over the area position vacated by Mr. Mick.



Get Better Ammoniation WITH NATURAL-TEXTURE V-C Triple Superphosphate

Quality is the watchword at the big, new V-C Triple Superphosphate plant at Nichols, Florida. Here, V-C Triple Superphosphate is produced so that it retains its natural, desirable texture—a big help to you in simpler, faster ammoniation in your plant. This superior texture also helps you cut down on recycling at

your mixing machines. V-C Natural-Texture Triple Superphosphate is backed by many years of experience and production know-how. V-C pioneered in the production of concentrated superphosphate as far back as 1907, when it put into operation, at Charleston, S.C., the first large-scale plant in the United States.

Depend on V-C to supply your Triple Superphosphate needs. Newly-expanded facilities and years of skill in production now combine to bring you Natural-Texture Triple Superphosphate designed to fit your production programs. Write or call now!

VIRGINIA-CAROLINA CHEMICAL CORPORATION

401 East Main Street, Richmond 8, Virginia



Crop Prospects in Mid-South States Brightest in Years

MEMPHIS—Prospects for an excellent harvest of cotton, corn and soybeans in the Mid-South are the brightest in years.

Extension officials of Arkansas, Mississippi, Missouri and Tennessee were enthusiastic in their weekly crop reports.

"Mississippi's 1955 crop prospects are the brightest in years," officials of the Mississippi Agricultural Extension Services said.

"Pastures have made a remarkable recovery from last year's drought and are furnishing excellent grazing for beef and dairy herds," W. R. Thompson, extension agronomist, said. "Silage crops show excellent prospects and corn promises to turn out the best yields since 1950."

In Mississippi, cotton is fruiting

well and making good growth. Insect damage is mostly light. Marketing of truck crops and watermelons is underway in the southern part of the state. Sweet corn is being marketed in Batesville and Greenville.

In southeast Missouri farmers are happy over the outlook, and except for the loss of some hay caused by the showers last week, they are in good shape. The cotton crop is about two weeks late, but is up to a good stand over most of the area.

Judd Brooks, West Tennessee District Agent at Jackson, reported showers hurt some cotton in the lowlands and some corn was flattened. Hay and small grains are being harvested, but rains damaged some of the hay.

"Truck crops are moving to the markets with the end of the harvest nearing," he said. "Very little boll weevil infestation has been reported, although thrips and flea-beetles have been prevalent in some areas."

Arkansas truck crops this year present about as good a picture as do other crops, such as cotton, the Agricultural Extension Service reported.

C. A. Vines, associate director of the service in Little Rock, said harvest of the tomato crop in Bradley County was more than 80 per cent complete, with marketing going on there and in adjoining counties.

Nitrogen Sales Jump in Texas Irrigated Areas

EL PASO, TEXAS—Nitrogen fertilizer sales in some irrigated areas have soared as much as 1,000% over last year, according to P. A. Alers, district manager of the local Worthington Corp.

He says there is a demand for a complete fertilizer, where nitrogen, potash and phosphorus are mixed together in liquid form.

In most Southwestern areas where water is not too limited, heavier applications of fertilizer are being used each year.

PHILLIPS PACIFIC

(Continued from page 1)

the raw material for ammonia manufacture in the first unit of the new plant.

The plant will be designed by Phillips Chemical Co. and constructed by the Fish Engineering Corp. It is anticipated that the plant will be placed in operation late in 1956, which will enable supplying distributors in the area with fertilizer for the spring season of 1957.

Plans for the new ammonia plant were made possible because of construction now under way by Pacific Northwest of a long-distance transmission line from the San Juan Basin of northwestern New Mexico across southwestern Colorado to bring the first natural gas into Washington, Oregon and Idaho.

This plant represents the first major industry in the area to result from the availability of natural gas. Mr. Adams and Mr. Fish said they expected it to be the forerunner of accelerated industrial growth in the northwestern states based on the use of natural gas as a chemical raw material and an industrial and household fuel.

Special
Retail
Section

A SP
Florida
With

By AL.
CropLife

Bill Carrington
operates Palmetto
Gas Co., has cut his
expenses by pur-
chasing a truck for \$1,250
and unload bags.

Mr. Carrington
and his men built
pallets out of
pallets have 50 of
them by 150 ft. w
eigher is shipped
and his men take
to the deliv-
er from truck
pallet. Then with
tuching the bag
taken into the
pallet is placed
anted.

The fork truck
a height of
which is ample
ertilizer in the
it will hold up
ertilizer on pallets.

"This truck is
dolars in ferti-
asonally," repre-
It is also elimi-
narily, when
reaks, it is han-
customer. You ha-
ice to a custo-
ake some of the
e fork truck
oken bags.

Another labor
e fork truck
accomplish, i-
now sell on
ns of fertilizers
a matter of m-
ns of fertilizers
ark truck from
truck, with the
sting on the p-
When the fa-
ziner home, he
warehouse or di-
d then returns
Palmetto Farm
ip to town. A
ch invoice how-
stomer has tak-

A Texan, born at College Station, Mr. Francis earned a B.S. degree in agriculture (1915) from Texas A&M College, and later attended the New York State Veterinary College and Cornell University.

An infantry officer in the first World War, he also was in World War II, serving as tank destroyer commander for three years. He is a member of the Entomological Society of America and Beta Theta Pi, social fraternity.

Allotment for 1956
Burley Crop Reduced

WASHINGTON—July 25 has been set as the date of a farmer vote

Ezra Taft Benson, secretary of agriculture, has set the quota for 1956 crop which would result in acreage allotment of about 889,000 acres, a 12% dip from 1,007,100 acres.

In the quota referendum farmers can (1) approve quotas for the next three years, (2) approve quotas for next year only, or (3) turn down quotas for next year. Two thirds of the growers voting must approve quotas before they go into effect.

SULPHUR OUTPUT STARTS
NEW YORK—Continental Sulphur & Phosphate Corp. has announced it has started sulphur production at its refining plant at Sulphurdale, Utah. The plant has a daily capacity of 100 tons.

(Continued)

Pipeline

from an ocean of brine...

BORAX

Sodium Tetraborate,
technical 99.5% $\text{Na}_2\text{B}_4\text{O}_7 \cdot 10\text{H}_2\text{O}$
in coarse and fine granular
and powdered grades
BORIC ACID
PYROBOR®—Dehydrated Borax
V-BOR®—Refined
Pentahydrate Borax

From fabulous Searles Lake at
Trona, California, come
basic chemicals indispensable
to Industry and Agriculture.

POTASH

Agricultural Muriate
95-98% KCl,
Chemical Muriate 99.5% KCl,
and Sulphate 95-98%
 K_2SO_4

American Potash & Chemical Corporation

Offices:

3030 West Sixth Street, Los Angeles 54, California
99 Park Avenue, New York 16, New York
214 Walton Building, Atlanta 3, Georgia

Export Division

99 Park Avenue, New York 16, New York

Plants

Trona and Los Angeles, California;
San Antonio, Texas



SODA ASH

Sodium Carbonate,
technical 99.2% Na_2CO_3
58% Na_2O in
granular and fine
granular grades

SALT CAKE

Sodium Sulphate
Anhydrous, 97.0%
 Na_2SO_4 minimum, in
regular and industrial
grades

LITHIUM

Lithium Carbonate,
Lithium Chemicals,
Lithium Ores

*Trade Mark AP&CC

Producers also of—BROMINE CHEMICALS, and a diversified line of specialized agricultural, refrigerant and industrial chemicals.

Better Selling

**Richer
Fields for
Dealers**

A SPECIAL CROPLIFE DEPARTMENT TO HELP RETAILERS IMPROVE MERCHANDISING KNOW-HOW

Florida Dealer Keeps Business Humming With Efficient Operational Practices

By AL. P. NELSON
CropLife Special Writer

Bill Carrington, who owns and operates Palmetto (Fla.) Farm Supply, has cut his handling costs considerably by purchasing a used fork truck for \$1,250 and using it to load and unload bagged fertilizer on pallets.

Mr. Carrington and his crew of four men built their own wooden pallets out of used lumber. They now have 50 of these pallets in a big 100 by 150 ft. warehouse. When fertilizer is shipped in Mr. Carrington and his men take the fork truck right to the delivery truck and unload from truck to fork lift on a pallet. Then without a human hand touching the bags again, the pallet is taken into the warehouse and the pallet is placed right where it is wanted.

The fork truck will raise the lift a height of 15 ft. if necessary, which is ample for storing palletized fertilizer in the warehouse. The fork lift will hold up to 2 tons of fertilizer on pallets.

"This truck is saving us hundreds of dollars in fertilizer handling costs seasonally," reports Mr. Carrington. "It is also eliminating broken bags. Ordinarily, when a bag of fertilizer breaks, it is hard to sell it to a customer. You have to make a special service to a customer to get him to take some of these broken bags. With the fork truck we have very few broken bags."

Another labor saving feature which the fork truck enables Carrington to accomplish, is the fact that he can now sell one or two or more bags of fertilizer right on the pallet. In a matter of minutes, a couple of bags of fertilizer can be loaded by fork truck from warehouse to farm truck, with the bagged fertilizer still on the pallets.

When the farmer gets the fertilizer home, he unloads into his warehouse or directly onto the fields and then returns the wooden pallets to Palmetto Farm Supply on his next trip to town. A notation is made on each invoice how many pallets each customer has taken.

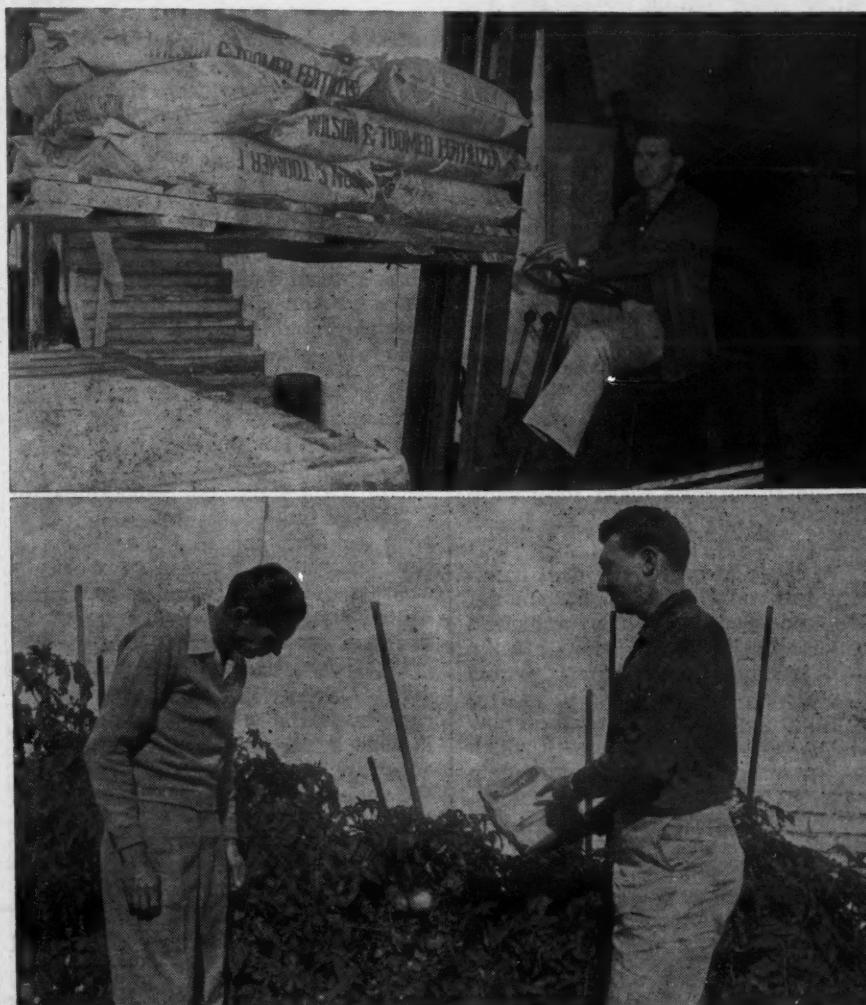
"Farmers like this quick, easy way to load and unload fertilizer," reports Mr. Carrington. "The service saves them from handling bags, too, for usually the customer helps with the loading process."

The firm usually puts 15 sacks of fertilizer on a pallet, and in storing them in the warehouse, an ideal working height is up to 3 tons in one stack, reports Mr. Carrington.

Even for sales of five or more sacks of fertilizer, the fork truck is economical and handy, reports this writer. In case a customer wants only a few sacks the truck is used to take the entire pallet out to the farm truck where it is lifted high. The farmer then easily takes off the number of sacks he wishes, and the fork truck then takes the pallet and remaining sacks back to the warehouse.

Mr. Carrington has also managed to get most of his fertilizer business making cash buying attractive. He offers a 5% discount for cash-time of purchase. This method

(Continued on page 11)



FLORIDA DEALER—Bill Carrington, owner of Palmetto (Fla.) Farm Supply, is shown in the top photo loading fertilizer on pallets onto a farm truck. The customer returns the pallets on his next trip to town. In the lower photo Mr. Carrington, right, is showing a customer the type of spray he used to produce the fine tomatoes in the firm's "merchandising garden."



SHOP TALK OVER THE COUNTER FOR THE DEALER

By EMMET J. HOFFMAN
CropLife Merchandising Editor

Financing of fertilizer purchases promises to be an increasing source of business for banks and for that reason many bankers have taken cognizance of this field of income and developed it. There are still far too many bankers that have no appreciation or realization of the worth of their community of the proper use and value of fertilizing.

Some correspondence with a Shreveport, La., bank representative brings out some interesting comments which he makes about fertilizer financing. We are taking the liberty of revealing some of Kenneth D. Garvin's statements taken from a letter to this department. Mr. Garvin is manager of the agriculture department of the Commercial National Bank in Shreveport, La.

This Shreveport bank has had wide experience in various types of farm loans and its experience, as outlined by the excerpt from Mr. Garvin's letter, is of interest to dealers and other bankers as well.

Handling Loans

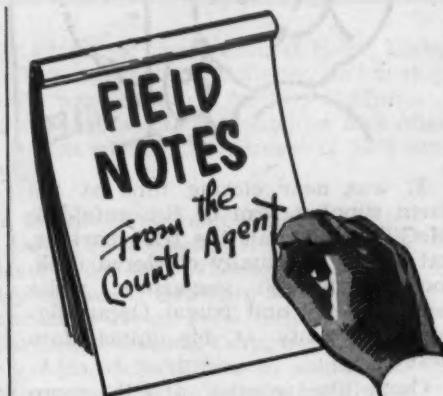
"As to the financing of fertilizer, we normally include this item in our over-all beef cattle, dairy or crop loan program, as definitely funds are set aside to insure proper fertilization for pastures or crops,

as the case may be. With the exception of the Red River bottom area, most of our lands in this area are very deficient in all minerals and fertilizer is a 'must' in the handling of any of our loans and we try to see that funds are made available to handle the needs involved."

\$50 Fertilizer per Acre

"In a lot of cases we have loaned money, particularly to dairymen, to

(Continued on page 11)



By RAYMOND ROSSON
County Agent, Washington County, Tenn.

Are We Adequately Insured? Insurance is big business. Most everything can be insured for a price.

Yes, sir, a good dealer handling the farmers' needs can be a mighty good insurance salesman. That's right. The correct amount of fertilizer is about the cheapest insurance against low yields, just as the correct insecticide is against some pests.

Few people realize it but it requires nearly three tons of food and materials from the farms and forests each year for every man, woman and child in the U.S. if we are to maintain present American living standards.

Already, it is straining our scientific resources to the utmost to enable agriculture to meet this constant and growing demand for food and fiber. The race between the food supply and population increase is already on, especially if we take a long-term view of the population picture.

In 1920 we had about 3 1/4 acres of harvested crops for every person in the country. Today we have only 2 1/4 acres per person and by 1975 we'll have about 1 3/4 acres. Everyone, both in the city and country, should be interested.

Through applied research, our farmers are furnishing some mighty good insurance for themselves and for the towns and cities for, after all, "The world awakes hungry every morning for breakfast."

Only 0.4% of the gross sale of farm products go for research and carrying that research to the masses, compared with 2.0% allocated by industry for research. There's work to be done here.

P.S.—Enough food for everybody, is pretty good insurance, don't you think?

Mosquito Control Program Launched in Kentucky

FRANKFORT, KY.—Gov. Wetherby of Kentucky has agreed to spend up to \$30,000 from his emergency fund to launch a mosquito control spray program in several western Kentucky counties. The program is getting under way in Hopkins and Henderson Counties.

The governor said, however, that the state's effort will be only emergency relief and that permanent control must be done by the local communities.

Severely affected counties also include parts of Webster, Muhlenberg, Ohio, Hancock, Butler, Crittenden, Calloway and Christian.

Better Selling

Richer Sales Fields for Dealers

CROPLIFE, July 18, 1955

CROPLIFE

Doing Business With

Oscar & Pat



It was near closing time at the farm supplies firm of Schoenfeld & McGillicuddy. Pat, the Irish partner, sat at his habitually cluttered desk, looking through magazines, while neat, orderly and frugal Oscar, figured discounts at his immaculate desk.

Oscar liked routine, and the more exact he could make it the better. Many times during the day he looked contemptuously at Pat's cluttered desk, its heaped up farm and trade magazines, booklets, bulletins and catalogs, which just never seemed to get filed away properly. Oscar seldom read any magazines. He was always working.

"Oscar," Pat said suddenly, "do you like to get advice from your wife?"

"I should say not," snapped the rotund, partly bald partner. "I'm boss in my house."

"Just as I thought," Pat said. "We don't like to take advice from folks who are closest to us, even though we love them. And customers don't like to take too much advice from you and me, Oscar. But they'll take a lot of advice from a respected stranger or authority."

"What the dickens are you talking about?" Oscar asked petulantly. "Ach, another of your daydreams."

Pat shook his head, a bright glow in his blue eyes. "Oscar," he said, softly, "I've got an idea."

"One we could do without, I'll bet," Oscar said coldly.

"We would have to put on a weekly radio program to get the idea across."

"Then let's forget it," Oscar suggested practically. "Radio advertising costs money. And we've never had too much money around here yet."

"I was thinking," Pat said unperturbed, "that on a radio program we could perhaps get our county agent to give four talks, one per week, about 15 minutes each. One talk could be on fertilizers and their use, the second on insecticides, the third on weed control and the fourth on soil conservation. The county agent is anxious to get such information to farmers. He could do so on our program. We wouldn't ask him to suggest to farmers that they come to us for fertilizers and chemicals when they need them. Our commercials would do that."

"Four times!" echoed Oscar. "You talk like we are a big organization with five or six branches. We couldn't afford that."

"It wouldn't cost so much, Oscar," declared Pat. "You have to spend money to make money. We could follow up the county agent's talks with two talks by the high school agricultural teacher."

"Him, too?" asked an astonished Oscar. "What could he tell farmers that they don't already know?"

"Oh, he could give a talk on soil testing, and how important it is. His high school class tests lots of soil every year. He could detail every step and give findings. His talk would stimulate farmers to get their soil tested more often. And when farmers have soil tested it usually means they know exactly what fertilizer to buy to get best results. That's where we come in."

"Yah, but will they pay for it?" Oscar asked gloomily. "That's the rub!"

"After the ag teacher talks about soil testing, he could give a talk on training young people for careers on the farm," Pat went on. "Lots of farmers wish more young people would stay on the farm. Young farm folks won't listen to their parents as much as they will listen to an authority. I'll bet many young farm people would stay on the farm if they had the true facts laid before them. And many older farmers would listen in on those talks, too."

"But that type of talk won't help us sell fertilizer," Oscar protested. "Why not let young farm people decide for themselves what they want to do? Why should we stick our necks out?"

"We could also get the local banker to talk on how farmers can get loans for seeds, fertilizer and feed purchases," Pat said, thoughtfully. "He'd be glad to do that. It would get business for him, and the farmers would get valuable advice on how to finance vital operations with which we are concerned. It should help make our collections easier."

"You talk like a politician," Oscar said, angrily. "The farmer has only so much money to spend. He can't make extra money so easily."

"Then," went on Pat, as if Oscar was not at hand, "some week we could get the lawyer to talk on farm partnerships and leases. A lot of farmers would listen to that. That problem comes up every year. And I was also thinking that farmers would appreciate a radio talk by a good insurance man on what kinds of insurance the farmer should carry and how he can cut down fire hazards on the farm."

"But—but," spouted Oscar, "we can't help other businessmen sell their insurance and other things. Let's stick to fertilizer."

Pat looked beyond Oscar. "If we get the reputation for being willing to bring farmers all this valuable information by experts in the different fields, they will think of us when they want to buy fertilizer and other items. They'll remember us, and talk about us. That's good public relations."

"And maybe we'll be bankrupt after we get through paying all those radio advertising bills, that's what!"

Tillie Mason, the plumpish bookkeeper, who had been listening to the partners talk, came forward. "Oh, you could mimeograph copies of each of those talks and have them on display," she said. "We have a mimeograph and could run off copies without too much expense. Then every farmer who wanted one could have a copy, with our name stamped on the back."

Oscar's face was livid as he turned around. "What, you, too?" he choked. "Has everybody around here but me gone crazy? Spend! Spend! Spend! That's all you people think about. Well, I've had enough. I'm putting up for sale my half of this partnership. Ach, such crazy stuff—trying to throw money away all the time instead of putting it in the bank." He grabbed his three year old sailor

straw hat and stomped out of the office.

All was quiet for a moment, then Tillie went to her desk and took an ulcer powder. "Oh, I wish I hadn't said what I did. Do—do you really think he means it—that he'll sell out?"

Pat grinned. "I don't think so, Tillie. He'll cool off, and see that it's a good idea, even if it costs money. And your suggestion about mimeographing copies of those radio talks—that's a dandy."

"I'm glad you like it," Tillie said. "It came to me—just like that." And she snapped her fingers.

Pat chuckled. "Wouldn't it be wonderful if some day we could think up a big profitable business building idea that wouldn't cost the firm one red cent except oil for a fast working cash register? I wonder if Oscar would object in a case like that."

SUGARCANE BEETLE

BLACKSBURG, VA.—The sugarcane beetle has been found this year in corn in Mecklenburg County, Va., according to Arthur P. Morris, associate entomologist at Virginia Polytechnic Institute. The last recorded damage done by this insect in Virginia was in 1914.

Promising Results of Systemic Insecticide Trials Observed in South Carolina Tour

CLEMSON, S.C.—During a recent tour conducted by experiment station and extension service personnel of Clemson College, farm leaders, agricultural workers and members of the Clemson Extension Cotton Committee had a chance to view first-hand some of the results produced by experiments with systemic insecticides on this year's cotton crop.

The tour included seven stops, six of which were made on local farms in Oconee and Anderson counties, where the systemic insecticide experimental work has been conducted this year. The other stop was made at the Experiment Station farm located at Clemson, where additional work is being conducted.

During the tour stops were made at the O. C. McLane, Cherry Davis, Tom McLees, and Noah Grant farms in Oconee County. The group observed distinct differences at these farms in thrips and aphid damage where the systemic insecticides had and had not been applied. The cotton appeared to be growing better in the treated areas, and in general it was in much better condition than the untreated cotton.

On the farm of Frank Hall in Anderson County, the group saw a comparison between a field of untreated cotton which came up soon after planting and a field that was late in coming up. The older cotton suffered thrips and aphid damage but appeared to be gradually overcoming the damage. The cotton in the same field, which was three weeks late in coming up, was showing heavy insect

West Texas Farmers

Get Go Signal For Fertilizer Use

LUBBOCK, TEXAS—West Texas farmers who irrigate grain sorghum now have the go-ahead signal for using commercial fertilizers. For several years they have watched the experiments at the Lubbock Field Station, and knew that the agronomists did not recommend fertilizing grain crops.

Now the station has found that commercial fertilizers do pay off on grain sorghum fields under certain conditions.

"Fertilizer can be used on land that has been heavily cropped the year before," said E. L. Thaxton, associate engineer at the station.

On field tests where unfertilized plots produced 3,300 lb. maize to the acre, the same amount of water and cultivation made over 5,000 lb. of fertilized plots. For about \$8 worth of fertilizer, an extra \$30 worth of grain was produced.

South Carolina Corn Practices Studied

CLEMSON, S.C.—"Corn Production Practices in South Carolina," bulletin prepared by D. E. Crawford, associate agricultural economist at the South Carolina Agricultural Experiment Station, is now being distributed.

Mr. Crawford concludes that corn yields must be increased on a majority of farms if it is to maintain its position as the number one user of land in South Carolina. He says that growers should continue to develop economical uses of tractor power and plant improved varieties on fertile soils which have been properly prepared and fertilized.

keeps his char
ow level.

Mr. Carr
chandising m
with his effic
tices. For ex
of his buildin
tersection, is
signs which
sells fertiliz
rials, insectic
ware and pa

In addition
wide strip of
walk and bu
rows tomato
prouts, cabb
other items.
This "mercha
valled with s
o that soil a
un the sidew

If a vegeta
his big mode
and asks Bill
ilizer or inse
oes, for exam
outside and sh
e is growing
omer thus

He tells t
fertilizer he
and what i
omer thus

This section
vegetables, i
page and tom
are many lar
new medi
All classes o
some of thei
and fungicide
Supply, and n
to watch Bil
s evidence o
fertilizers and i

Because Fl
very low in o
states that in
generally use
to 50% or
does, while fo
4-7-5 with 2
generally use
excellent cro
use 4-7-5 or

Some grow
500 acres u
many others
acres. There
growers with
ports Mr. Ca

Insecticides
ways in dem
ington repo
their own spr
also a num
Palmetto Fa
farmers and

This store
of crate ma
boxes, bushe
small and lar

Mr. Carr
of praise fo
for the stat
mental sta
orate in ca
secticide, f
ment story
part of the

The fertili
as many of
able—and
many of the
many new de
affect the pr
uses. Such m
the opportu
table grower

Such acti
the state ag
ton, means

FLORIDA DEALER

(Continued from page 9)

keeps his charge accounts at a very low level.

Mr. Carrington's profitable merchandising methods also keep pace with his efficient operational practices. For example, the south side of his building, facing a street intersection, is well lettered with signs which tell farmers that he sells fertilizer, seeds, crate materials, insecticides, fungicides, hardware and paints.

In addition he has a three foot wide strip of ground between sidewalk and building wall, where he grows tomatoes, celery, brussels sprouts, cabbages, strawberries and other items. The ground levels off his "merchandising garden" are walled with stone and woven wire, so that soil and plants do not overrun the sidewalk.

If a vegetable grower comes into his big modern farm supply store and asks Bill Carrington what fertilizer or insecticide is best for tomatoes, for example, Bill walks the man outside and shows him the tomatoes he is growing.

He tells the prospect just what fertilizer he used on the tomatoes and what insecticides. The customer thus can see for himself.

This section of Florida grows many vegetables, including lettuce, cabbage and tomatoes and beans. There are many large growers and quite a few medium size and small growers. All classes of growers, however, buy some of their fertilizers, insecticides and fungicides from Palmetto Farm Supply, and most of the farmers like to watch Bill's garden regularly. It is evidence of the worth of the fertilizers and insecticides this merchant sells.

Because Florida soils generally are very low in organics, Mr. Carrington states that in his trade area growers generally use a 4-8-8 fertilizer with 40 to 50% organic content for tomatoes, while for lettuce and cabbage a 1-7-5 with 20 to 25% organics, is generally used. For pole beans—an excellent crop in this area, farmers use 4-7-5 or 5-7-5.

Some growers in the area have 500 acres under cultivation, while many others have from 50 to 100 acres. There are numerous small growers with from 5 to 20 acres, reports Mr. Carrington.

Insecticides and fungicides are always in demand in Florida, Mr. Carrington reports. Most growers have their own spray outfits, but there are also a number of custom sprayers. Palmetto Farm Supply sells to both farmers and to custom men.

This store also sells a large volume of crate materials, such as packing boxes, bushel baskets, etc., to both small and large growers.

Mr. Carrington has a great deal of praise for the county agent and for the state university and experimental station staffs, who collaborate in carrying the fertilizer, insecticide, fungicide and management story to farmers in every part of the state.

The fertilizer dealer who attends as many of these meetings as possible—and Mr. Carrington goes to many of them—can keep abreast of many new developments which vitally affect the products he sells and their uses. Such meetings, too, give a dealer the opportunity to meet many vegetable growers.

Such active educational effort by the state agencies, says Mr. Carrington, means that the average dealer

need not hold too many meetings in his own store. The best educational work he does, he states, is with individual customers who come and ask specific questions.

In this area of Florida near the Gulf of Mexico several crops of vegetables are grown each year. This means that a grower will buy and apply large amounts of fertilizer several times a year. This also applies to the insecticides and fungicides and packaging materials. The middle of summer here is generally the fallow season between crops.

In addition to serving vegetable growers, Mr. Carrington also has a farm supply store which includes weed killers, seed and lawn supplies and farm hardware. He has recently gone into the selling of television sets, which he finds an excellent profitable sideline. Many vegetable growers and others who purchase needs at the store are also in the market for TV, which gives the store many live leads regularly.

Mr. Carrington formerly managed a large farm supply store for another man, and has been in business for himself since 1952. Since that time his business has been expanding regularly.

He reports that the vegetable industry in his area seems destined to grow rapidly, since growers have learned what valuable assets good fertilizer, insecticides and fungicides are in helping them achieve more profitable production.

Mr. Carrington uses his local newspaper each week for an outstanding ad on products carried in the store. He also gives customers items such as thermometers and rain gauges.

On the big wrapping counters are many folders on fertilizer and farm chemicals, and owner and clerks call the attention of growers to them. Sales are stimulated when growers take and read many of these folders, Mr. Carrington reports.

OVER THE COUNTER

(Continued from page 9)

carry out pasture improvement and crop growing practices, which includes very liberal applications of fertilizer.

"In many cases, we are spending as much as \$50 per acre on fertilizer alone on some of our dairy farms and these practices have been paying off for the farmers involved."

"Normally, these fertilizer and pasture improvement loans are set up in connection with the general dairy loans and collateralized by chattels on the cattle involved, farming equipment, and in some cases farm real estate. We normally try to set the repayment schedule so that the amount of money used in fertilizing and producing the crop of grass or feed, as the case may be, is repaid by the time the grass or feed is used by the cattle. In this manner we are able to keep the farmer's over-all indebtedness minimized."

"In working with our dairymen and beef cattlemen along these lines, we have increased the use of silage production in this area from the point in 1948 where there was only about three dairymen putting up silage and no beef cattlemen using it at all, until today we have some 250 to 350 beef cattlemen and dairymen producing and utilizing silage in their livestock programs."

What's Been Happening?

This column, a review of news reported in Croplife in recent weeks, is designed to keep retail dealers on the regional circulation plan up to date on industry happenings.

The sixth annual Pacific Northwest Fertilizer Conference at Boise, Idaho, June 28-30, featured speakers from USDA, agricultural colleges, and custom operators from the western area. Reports were heard on fertility studies. . . . U.S. Tariff Commission reported that production of all pesticides and other organic chemicals in 1954 totaled 419 million pounds, an increase of 18% over the 356 million pounds reported for 1953.

Program committee members for the September meeting of the National Agricultural Chemicals Assn. (Spring Lake, N.J., Sept. 7-9) were named. M. R. Budd, Hercules Powder Co., Wilmington, Del., is chairman. . . . Members of the Association of Southern Feed & Fertilizer Control Officials met at the Jung Hotel, New Orleans, June 22-24. Frank E. Boyd, Virginia-Carolina Chemical Corp. pointed out the advantages of having fewer grades of fertilizers to avoid confusion and additional work. "Improvements in the number of grades must come through the cooperative effort of research, industry and education," he said.

A. P. Gates was named assistant to C. Cecil Arledge, vice president of Virginia-Carolina Chemical Corp. at Richmond and R. Andrew Jenkins was made manager of V-C's Baltimore sales office. . . . Dr. Norman A. Shepard has retired from his post as chemical director of American Cyanamid Co.

The National Agricultural Chemicals Assn. announced the appointment of Donald L. Miller as editor of the association's news service. He succeeds Scott Runkle who resigned recently.

Thunderbird Chemicals, Inc., announced plans for construction of a \$13 million anhydrous ammonia plant near Kyrene, Ariz. President of the new firm is Fred Shanaman, also president of Pennsylvania Salt Mfg. Co., of Washington. A plant site of 122½ acres has been procured.

The Pacific Branch of ESA was told that only a small number of petitions for tolerances required under the Miller amendment, have been received by the Food and Drug Administration. Attendance at the meeting, over 400, broke previous records. . . . A new insecticide plant at San Antonio de Belen, Costa Rica, began production of various formulations to be marketed in Central America. C. J. Fredrickson was named chief operating executive of plant.

A series of revised index numbers of prices of fertilizer materials for the years 1910 to 1954 was published by the University of Maryland Agricultural Experiment Station's department of agricultural economics and marketing. The changes were made to "provide a more realistic picture of the comparative prices of fertilizer materials (some of which) no longer represent a significant quantity relative to the total of all fertilizer materials," according to Paul R. Poffenberger, University of Maryland.

The U.S. Department of Agriculture issued its national bulletin outlining disbursement of some \$250 million in the 1956 agricultural conservation program. There are no major changes in the program. . . . The Department of Health, Education & Welfare outlined the conditions under which it will extend the effective date for the new Miller Law to apply to pesticides on a product-by-product basis.

Fertilizer consumption during 1954 totaled 20,508,000 tons, for a new record, according to the National Plant Food Institute. A NPFI survey shows, however, that sales for the 1954-55 fiscal year may be down as much as 4%.

About 900 attended the preliminary meeting of the National Plant Food Institute, being formed by the consolidation of the National Fertilizer Assn. and the American Plant Food Council. . . . W. E. Shelburne was named president of Armour Fertilizer Works. . . . New president of Pennsylvania Salt Manufacturing Co. is William P. Drake, 42, youngest president in Pennsalt's 105-year history.

Prospects are that the U.S. may produce over four million tons of synthetic nitrogen annually by Jan. 1, 1957, it was confirmed by U.S. Department of Agriculture officials. . . . Production of pesticides in the U.S. for the first three months of 1955 showed increases ranging up to 100%. . . . The high value of controlling cotton insects with chemical insecticides has been clearly demonstrated throughout 16 years of experiments at Waco, Texas, the USDA reports.

A survey taken by Virginia's state chemist, Rodney C. Berry, indicated that more states are permitting the sale and distribution of fertilizer-pesticide mixtures than were so numbered in a similar survey taken in 1954. Six more states reported that mixtures were being sold within their borders than were noted in last year's questionnaire.

Gypsy moth and budworm spraying projects were being undertaken in Maine and New Mexico. More than a half million acres of timber was set for treatment and about that many pounds of DDT were to be used. . . . USDA announced promising results from two new systemic insecticides for control of cotton pests. . . . John E. Sanford, president of Armour Fertilizer Co., Atlanta, Ga., retired after a career of 45 years in the fertilizer business.

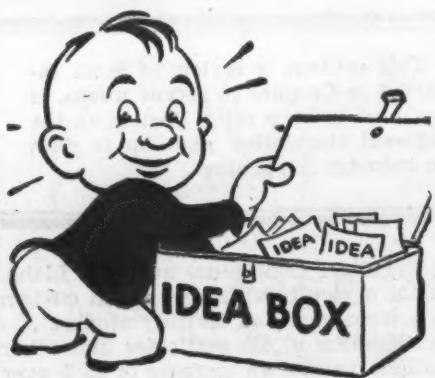
Robert Q. Parks was named general sales manager of Grace Chemical Co. He will continue to work out of Memphis, Tenn. . . . Glenn O. Middleton was appointed manager of the Dubuque, Ia., sales office of Virginia-Carolina Chemical Corp. G. Aubrey Clayton was made assistant manager of the Dubuque office.

Davison Chemical Co., Division of W. R. Grace Co., announced that a new professorship has been established at the Johns Hopkins University, Baltimore, to be known as "The Grace Chair of Chemistry." The position will be filled by Dr. Paul H. Emmett of the Mellon Institute of Industrial Research, Pittsburgh.

Better Selling

Richer Sales Fields for Dealers

CROPLIFE, July 18, 1955



What's New...

In Products, Services, Literature

You will find it simple to obtain additional information about the new products, new services and new literature described in this department. Here's all you have to do: (1) Clip out the entire coupon and return address card in the lower outside corner of this page. (2) Circle the number of the item on which you desire more information. Fill in your name, your company's name and your address. (3) Fold the clip-out over double, with the return address portion on the outside. (4) Fasten the two edges together with a staple, cellophane tape or glue, whichever is handiest. (5) Drop in any mail box. That's all you do. We'll pay the postage. You can, of course, use your own envelope or paste the coupon on the back of a government postcard if you prefer.

No. 6290—Phosphorus Pentasulfide

The addition of phosphorus pentasulfide to the list of phosphorus derivatives available from Monsanto Chemical Company's inorganic chemicals division has been announced. The company's distilled phosphorus pentasulfide, made with pure electric furnace phosphorus, is being marketed as a greenish yellow granular powder. Typical analysis is 27.9% phosphorus, 72.0% sulfur, and a melting point of about 280° C., the firm reports. The P₂S₅ also can be made available in solid form. Powdered material is packed in 150-lb. and 325-lb. drums. Secure more details by checking No. 6290 on the coupon and mailing it to Croplife.

No. 6271—Pyrenone 606 Spray

A newly developed insecticide just announced by Niagara Chemical Division of Food Machinery and Chemical Corp. is Pyrenone 606 spray. This new spray is claimed to be non-poisonous and non-injurious to man, livestock and foodstuffs.

The product is an oil-free emulsifiable concentrate containing 60% piperonyl butoxide and 6% pyrethrum. When diluted with water, it can be used for the following: A liquid grain protectant, a fruit fly spray and as an industrial and livestock spray. It is recommended for food packers and canners where fruit flies and other insects are troublesome. Secure more details by checking No. 6271 on the coupon and dropping it in the mail.

No. 6272—Hose Pump

New features of the Liberty liquid fertilizer hose pump introduced by the Liberty Manufacturing Co. have been announced. The Krause Plow Corp. has acquired exclusive manufacturing and sales rights to this application device. Production of the hose pump is licensed by the University of Tennessee Research Corp., whose engineers designed and patented it. Improvements in the pump have also been made by United States Department of Agriculture engineers at Beltsville, Md., who have been working with it for the past 18 months. The hose pump is a metering device which is said to

handle all types of fertilizer solutions, and is claimed to be accurate and free from stoppage troubles. Secure additional information by checking No. 6272 on the coupon and mailing it.

No. 6289—Feeders

A 12-page technical bulletin entitled, "Continuous Proportioning Equipment for the Fertilizer Industry," has been published by the Omega Machine Co., division of B-I-F Industries, Inc. The bulletin was prepared by Andrew A. Melnychuk, project engineer. Sections are devoted to phosphoric acid production, superphosphate, triple superphosphate, continuous compounding of fertilizer mixtures, proportioning of coating agent to hygroscopic materials and a summary. Chemical feeding and proportioning problems are welcomed by the firm's engineering and laboratory staff, the bulletin states. To secure the bulletin check No. 6289 on the coupon and drop it in the mail.

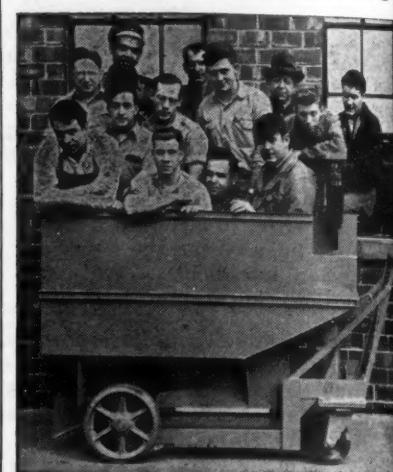
No. 5225—Automatic Bagging Scale

Richardson Scale Co.'s E-50 automatic bagging scale is described and illustrated in the company's new 6-page bulletin No. 3749A. The scale was designed for high-speed bagging with consistent weighing accuracy, according to the manufacturer. It has a normal capacity range of 5 lb. to 25 lb. or 25 lb. to 50 lb. Both open-mouth paper or textile bags can be weighed and filled with the scale, the company says. The bulletin includes three suggested feeding arrangements for granular, powdered and pellet-size materials. Specifications and optional features are outlined in the bulletin and accessories as feeders, bagholders, sewing conveyors, sewing pedestals and packers are described. For a copy check No. 5225 on the coupon and drop it in the mail.

monorail. Under the remote control of one operator, the hoppers are automatically tare weighed, filled with multiple ingredients, net weighed and conveyed to a delivery point for discharge. The reference outlines the complete sequence of operation from the weighing, indicating and delivery cycles. One section, discussing control features, covers such things as pilot light indicators, weigh selector dial and the system's servo mechanism. Information on the automatic recording of tare, gross and net weights is also included. To secure the reference check No. 5200 on the coupon and mail it to this publication.

No. 6258—Bulk Scale

Recently the Burrows Equipment Co. built a special 1-ton capacity EZ Move bulk scale for Turner Seed Supply Co., Villa Grove, Ill. This picture taken at the factory prior to making shipment shows the capacity of the equipment. The scale will be used for receiving, handling, weighing



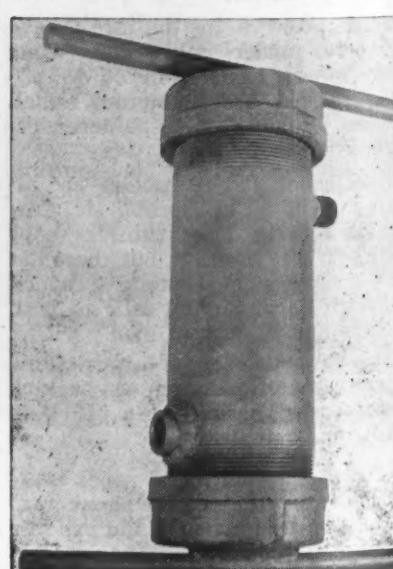
No. 6273—Level Gauge

A new major designed for ammonia or LP applicator ta

ing bulk phosphate, super and rock potash, sulphates and various forms of nitrate by Turner. The unit combines a large size platform scale with a stainless steel hopper. To secure more details about this scale check No. 6258 on the coupon and mail it to Croplife.

No. 6166—Spray Rig Filter

The Central Mine Supply Co. has designed and is manufacturing its new spray rig filter. Company spokesmen said that it is "designed for ease



Send me information on the items marked:

- | | |
|--|--|
| <input type="checkbox"/> No. 5200—Weighing System | <input type="checkbox"/> No. 6257—Chemicals Handling |
| <input type="checkbox"/> No. 5210—Bag Poster | <input type="checkbox"/> No. 6258—Bulk Scale |
| <input type="checkbox"/> No. 5225—Bagging Scale | <input type="checkbox"/> No. 6271—Pyrenone Spray |
| <input type="checkbox"/> No. 6163—Dust Filter | <input type="checkbox"/> No. 6272—Hose Pump |
| <input type="checkbox"/> No. 6165—Valves | <input type="checkbox"/> No. 6273—Level Gauge |
| <input type="checkbox"/> No. 6166—Spray Rig Filter | <input type="checkbox"/> No. 6289—Feeders |
| <input type="checkbox"/> No. 6256—Pump Bulletin | <input type="checkbox"/> No. 6290—Pentasulfide |
| <input type="checkbox"/> No. 6274—Soil Film | |

NAME

COMPANY

ADDRESS

CLIP OUT—FOLD OVER ON THIS LINE—FASTEN (STAPLE, TAPE, GLUE)—MAIL

FIRST CLASS
PERMIT No. 2
(Sec. 34.9,
P. L. & R.)
MINNEAPOLIS,
MINN.

BUSINESS REPLY ENVELOPE

No postage stamp necessary if mailed in the United States

POSTAGE WILL BE PAID BY—

Croplife

P. O. Box 67,

Reader Service Dept.

Minneapolis 1, Minn.

Also Available

The following items have appeared in the What's New section of recent issues of Croplife. They are reprinted to help keep retail dealers on the regional circulation plan informed of new industry products, literature and services.

No. 5200—Weighing System

A technical reference, offered by Richardson Scale Co., describes and illustrates a weighing and handling system which utilizes a line of batch hoppers suspended from an elevated

cleaning, with a sediment bowl in its base . . . and uses an easy-to-replace sock type filter element." Prospective users and dealers may have more complete information without charge. Check No. 6166 on the coupon and mail it to Croplife.

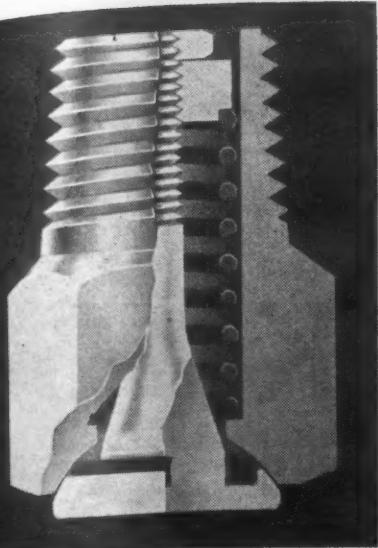
No. 6165—Check, Relief Valves

Details of how check and relief valves are used in Breco Chemical Corporation's distribution tanks for handling nitrogen solutions have been

Called the new headplate stand 1,200 new shrouds transmits flow, according for more de the coupon a

No. 6256—Pump

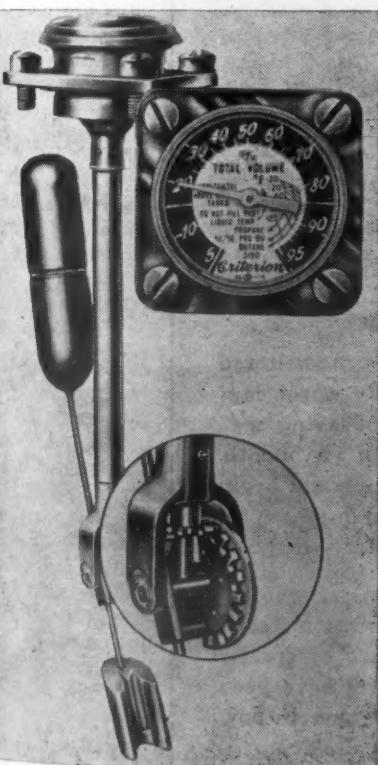
A new bul pumps fo available fro bulletin descri and section centrifugals g centrifug 0 to 3,500 models are av rubber tire gasoline eng



announced. The valves are trade named Circle Seal Precision valves by James-Pond-Clark. The Circle Seal announcement states that "Nitrogen or low pressure gas is used to 'pad' or pressurize the tanks to prevent boiling off of ammonia vapor and permit application under pressure. The relief valves protect the tanks from over pressure caused by increased vapor pressure where the tanks are in the sun. . . . The check valve protects the nitrogen or low pressure gas regulator from attack from the ammonia vapor." A check valve with a light spring is used as a vacuum breaker to permit flow out of the tank as the liquid is used and the pressure drops. To secure more complete details check No. 6165 on the coupon and mail it to Croplife.

No. 6273—Liquid Level Gauge

A new magnetic liquid level gauge designed for use in anhydrous ammonia or LP gas storage, mobile and applicator tanks has been introduced by the Rochester Manufacturing Co.



Called the Criterion, it features a new headplate design, tested to withstand 1,200 lb./sq. in. pressure and new shrouded gear assembly which transmits float arm movement to the dial, according to the manufacturer. For more details check No. 6273 on the coupon and drop it in the mail.

No. 6256—Irrigation Pump Bulletin

A new bulletin describing its line of pumps for irrigation service is available from the Deming Co. The bulletin describes deep well turbines, and section centrifugals, portable centrifugals, and portable self-priming centrifugal pumps with capacities up to 3,500 gal. per minute. Most models are available skid mounted or rubber tired mounts equipped with gasoline engine. The bulletin gives

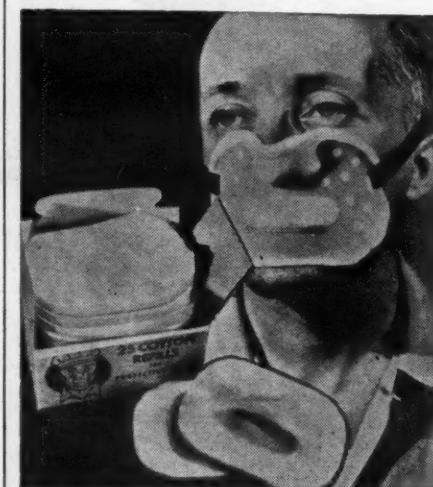
tables for determining: The amount of water needed; how often to irrigate; when to irrigate and rate of application; friction loss of water in pipe; and equations required for determining other factors related to proper pump use and selection. Secure the bulletin by checking No. 6256 on the coupon and dropping it in the mail.

No. 5210—Bag Handling Poster

A poster designed to curb careless handling of multiwall paper bags has been prepared by the Fulton Bag & Cotton Mills. The poster, printed in red and black, is designed for use on bulletin boards and in other plant areas. Cartoon technique is used in the illustrations and the text is brief and to-the-point. The poster may be obtained by checking No. 5210 on the coupon and mailing it to this newspaper.

No. 6163—Mask, Dust Filter

A light protective mask which weighs less than $\frac{1}{2}$ oz. has been announced by the General Scientific Equipment Co. Made of soft rolled



aluminum, it is said to be so pliable that it fits any shape face. It is recommended for protection against ordinary non-toxic dusts and spray hazards and may be worn with goggles. No metal touches the skin. Filter discoloration, caused by dust, is indicated in the picture. For more complete details check No. 6163 on the coupon and mail it to this publication.

No. 6257—Chemicals Handling

A booklet entitled, "Materials, Machines & Motions" has been compiled by Sauerman Bros., Inc. The information in the booklet relates to handling of chemicals. It describes in words and pictures the company's machinery in use by such firms as International Minerals & Chemical Corp., Duval Sulphur & Potash Co., Lion Oil Co. and Davison Chemical Company Division of W. R. Grace & Co. Methods of handling phosphate, ammonia and potash are described. To secure the 24-page booklet check No. 6257 on the coupon and mail it to Croplife.

No. 6274—Soil Test

Iowa State College's film production unit has produced a 22-minute film entitled "Soil Test." Produced under supervision of the college's agronomy department, the film is available for rent or purchase for \$190 a copy. For rental information a regular film library or the Visual Instruction Service, Iowa State College, Ames, may be contacted. Preview prints are available for those interested in purchasing the film. The only charge for the preview film is for insurance and return postage. For purchase information write: Print Sales Manager, Film Production Unit, Alice Norton House, Iowa State College, Ames.



A new granulation process, developed jointly by Spencer Chemical Co. and Ark-Mo Plant Food Co., promises better conditioned fertilizer. Big secret behind this development is accurate control throughout the process. At this panel the flow of various ingredients is recorded together with temperatures at various locations in the system.

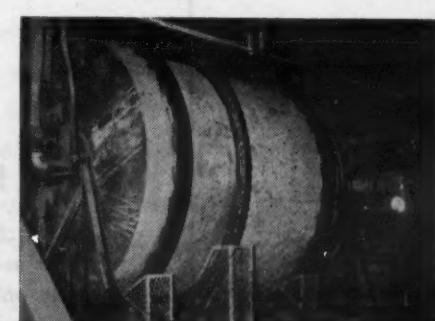
How Spencer helps the industry produce better conditioned fertilizer:

Granulated complete fertilizer is more and more in demand these days. It not only promises better condition in use, but also substantial production economies. To develop information on improved granulation techniques, Spencer Chemical Company recently made an agreement with the Ark-Mo Plant Food Co. of Walnut Ridge, Ark.

Working together, the two organizations set up a granulating operation which appears to offer the combination of better quality and decreased cost. Since the project has now been successfully completed, Spencer is able to give other manufacturers the information which has been developed.

We of Spencer hope that the end-product of this undertaking will be

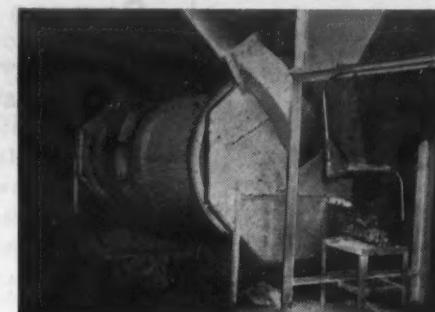
better fertilizer for you to sell . . . better, cheaper fertilizer for farmers to buy.



After raw materials are weighed and screened, the liquids are added in this ammoniator-granulator. This is the only equipment of special design in the Ark-Mo plant. Nitrogen is derived from SPENSOL solutions.



From the ammoniator the material flows to the conventional dryer (foreground). Then it goes to the cooler and finished product screens. There the fines are collected and weighed back into the system.



High nitrogen grades are coated with diatomaceous earth in this machine, on the way to storage. Other grades go to storage direct from process. Hundreds of man-hours went into these plants.



SPENCER CHEMICAL COMPANY

Executive and Sales Offices

DWIGHT BUILDING

KANSAS CITY, MO.

Better Selling

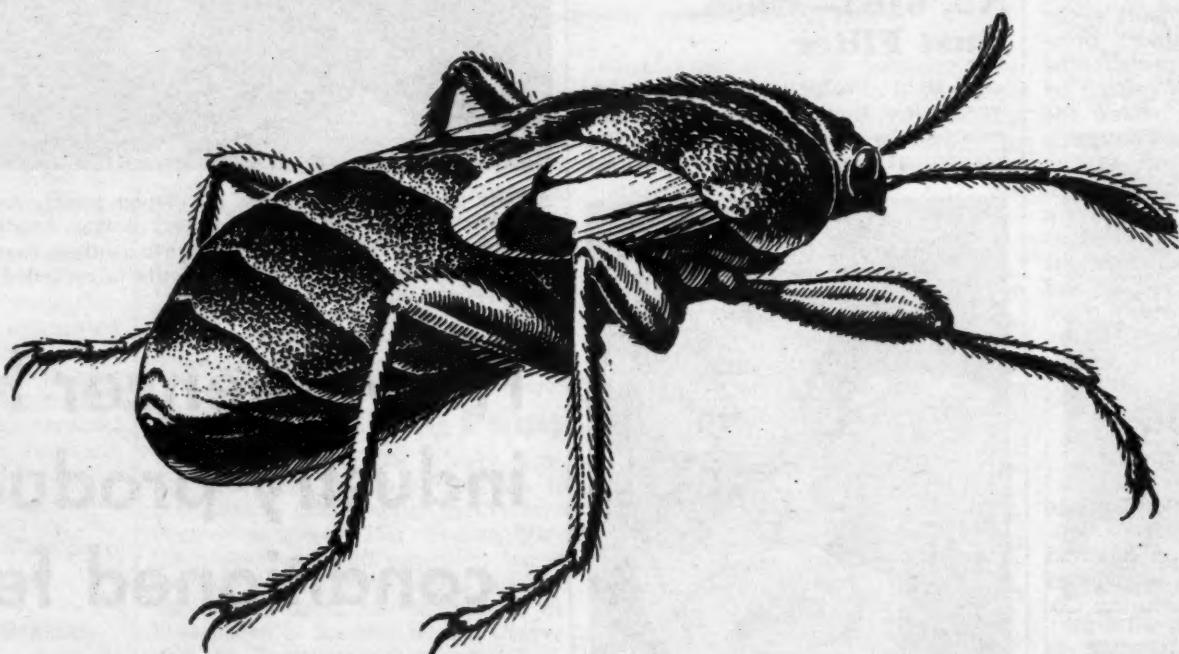
Richer Sales Fields for Dealers

CROPLIFE, July 18, 1955

CROPLIFE

BUG OF THE WEEK

Mr. Dealer--Cut out this page for your bulletin board



Lawn Chinch Bug

How to Identify

Lawn chinch bugs are quite small, black in color and about $\frac{1}{8}$ inch in length with white spots on their wings. They feed exclusively on corn and grasses and during periods of abundance, or in dry weather, lawns may be damaged seriously by the pest.

Damage Done by the Pest

The lawn chinch bug attacks the lawn from above ground. It sucks plant juices and injects into the plant a toxic salivary substance which damages the plant and causes bare spots and brown patches in the grass. Injury is usually seen first along driveways, walks and curbings. In thick, matted turfs, damage is much more severe than in new or unfertilized lawns.

Habits of Lawn Chinch Bug

After spending the winter months in sheltered areas, the bug appears in the early warm days of spring and begins the process of laying eggs in which it engages for nearly a month. Nymphs hatch about two days later and begin to feed.

Lawn Chinch Bug Control

As in most cases, no single control material is used to halt the bug. A number of sprays, dusts and barriers of various sorts have been employed to control the lawn chinch bug. Toxaphene, chlordane, aldrin and dieldrin, rotenone, DDT, sabadilla and nicotine all appear in various literature as means of control. Methods of application appear to be of particular importance, with emulsions and granular forms being preferred in a number of cases. Lawns should be watered both before and after application.

Drawing of Lawn Chinch Bug furnished Croplife through courtesy of Shell Chemical Corporation, New York.



FARM SERVICE DATA

Extension Station Reports

John F. Shoulders, associate agronomist at Virginia Polytechnic Institute, advises farmers to plan early for good fall pastures. He says plans for fall pasture seedings should include selecting the land, having the soil tested, making arrangements to have lime and fertilizer on hand when needed, preparing land early, and selecting a pasture mixture which will provide abundant grazing. He says:

Most fields can profitably use 100 to 1,000 lb. of a complete fertilizer such as 2-12-12 or 5-10-10 for seedings of tall grass and legume pastures. Seeding time is the only time fertilizer and lime can be worked deeply into the soil. Deep placement of lime and fertilizer will encourage deeper root development and the pasture will be better able to withstand drought.

Lime is important. Apply enough to bring the pH to between 6.0 and 5, preferable 6.5. The nearer the pH is to 6.5 the longer it will be before liming is necessary again. Apply at least half the lime 30 days before seeding. If the soil is extremely acid, apply half the lime before plowing, then plow it down.

★

Kentucky farmers bought 20,000 more tons of complete fertilizer last year than they bought in 1940, but they bought 7,700 more tons of plant food, according to a report of the Department of Feed and Fertilizer at the University of Kentucky.

This was because the average complete fertilizer in 1940 contained 17% plant nutrients, while in 1954 it contained 25.6% nutrients. This indicates a rapid shift to higher analysis fertilizer, says the report.

During the past year, 3-12-12 was the most popular grade of fertilizer sold in Kentucky. A total of 68,566 tons were sold. At the same time, 3,436 tons of 5-10-5 fertilizer were sold. Ranking third was 6-8-6. The low analysis grades, 2-12-6 and 3-6, slipped into fifth and seventh places in Kentucky sales. The use of straight fertilizer materials increased from 46,626 tons in 1940 to 175,625 tons in 1950 and then declined to 12,980 tons in 1954.

★

Some of Virginia's pine stands are suffering from a hurricane hangover. Dr. J. O. Rowell, entomologist at Virginia Polytechnic Institute, says many of the trees blown down during Hurricane Hazel lodged against standing trees. An insect called the engraver beetle, or IPS beetle, attacks the blown-over trees, then travels to the healthy trees where the two are in contact. In this way, he explains, a large insect population can be built up which can destroy all the trees in the stand.

Reports are coming in from North Carolina and other southern states that there is an outbreak of the pine engraver beetle which has reached epidemic proportions.

★

Summer sprays applied to peach tree trunks give good borer control if they are applied at the proper time and if proper coverage is obtained.

Roy J. Ferree, leader, Clemson Extension Horticulture Work, says growers who have followed proper spray schedules and have secured the desired coverage have realized good commercial control of borers with the recommended sprays.

He says to be effective three applications of the spray should be made, the applications should be

made at the proper time, and the tree trunks, crotches, and lower portions of the scaffold limbs should be thoroughly covered.

He advises making the applications about July 10, Aug. 10 and Sept. 10. The spray may be made by using either 3 lb. 15% wettable parathion per 100 gal. water or 8 lb. 50% wettable DDT per 100 gal. water.

★

Lime added to most Mississippi pasture land will just about double total forage yields, according to W. R. Thompson, Mississippi Extension pasture specialist. "A conservative guess is that at least 90% of the pasture land outside the Delta and some areas of the Black Belt needs additional lime," he stated.

Better Selling

Richer Sales Fields for Dealers

Pasture lands that have never been limed should have soils samples taken from them and tested for lime needs. Then the lands should be limed to a pH of 6.0 or 6.5. General recommendations are for heavy clay soils around two tons lime per acre. On lighter, sandy soils, one ton should be added, Mr. Thompson said.

Different legumes need varying amounts of lime, the specialist stated. For this reason it is important to plan pastures before they are limed.

ANT CONTROL

LEXINGTON, KY. — Chlordane treated fertilizer did a good job of controlling ants in strawberry patches in Letcher County, Ky., the county agent reports.

Croplife

**Here's another way
LION IS HELPING YOU
sell more Nitrogen Fertilizer**

WALLACES' FARMER Homestead

PRAIRIE FARMER

THE Missouri Farmer

The Progressive Farmer

Farm and Ranch

THE FARMER

Nebraska Farmer

WISCONSIN Agriculturist

Missouri Ruralist

**WORLD'S LARGEST MANUFACTURER
OF PRILLED AMMONIUM NITRATE**

LION OIL
CHEMICAL SALES DIVISION

**Look To LION—A Leader in Petro-Chemicals—
For Nitrogen Fertilizers**

Lion Anhydrous Ammonia • Lion Ammonium Nitrate Fertilizer • Lion Aqua Ammonia • Lion Nitrogen Fertilizer Solutions • Lion Sulphate of Ammonia

DISTRICT SALES OFFICES:
NATIONAL BANK OF COMMERCE BUILDING, NEW ORLEANS, LOUISIANA
SHEPHERD BUILDING, MONTGOMERY, ALABAMA



COMPANY
EL DORADO, ARKANSAS

The Farm Chemicals Library Reader Service Department CROPLIFE

SOILS AND FERTILIZERS—Fourth Edition

Firman E. Bear

Covers in detail: soil chemicals, important soil elements such as nitrogen, phosphorus, calcium; yield prospects of crop plants, moisture control, soil management; mechanical operations; soil conservation; organic matter maintenance. New facts, accurate figures. 66 illustrations, 420 pages. \$6.00

SOIL FERTILITY (1955)

C. E. Millar, Professor Emeritus of Soil Science, Michigan State College.

A fundamental treatment of the principles of fertility in the soil, with major emphasis on the plant itself. Relevant aspects of soil chemistry, soil physics, soil microbiology and plant physiology from viewpoint of their influence on plant growth. Each major plant food element and the more important micro-nutrients fully treated with respect to supply in the soil, sources and amounts of additions, losses from the soil, functions in plant growth and plant symptoms of deficiency. Covers all sections, with considerable space to saline soils and soils of southern latitudes. \$6.75

CHEMISTRY OF THE SOIL (1955) Firman E. Bear

Presents a comprehensive picture of the chemical aspects of soils in relation to their development, present constitution and the uses to which they are put. Covers: chemical composition, soil, colloids, organic matter relationships, oxidation-reduction phenomena, acid, alkaline and saline soils, plant nutrition, nutrient fixation, trace element chemistry, root and soil relationships. Scientists engaged in soil research will find useful data directly applicable to their investigations. Food chemists, manufacturers and those manufacturing liming materials, fertilizers, soil conditions, surfactants, wetting agents, insecticides, fungicides and other agricultural chemicals will gain new ideas for future product research and development. 384 pages. \$8.75

SOILS AND SOIL MANAGEMENT A. F. Gustafson

A complete study of soils; physical properties, soil organisms, organic matter, relation of water, control of water, tillage, erosion, acidity and its control by liming, management of alkali soils, nitrogen and its importance to the farmer, production, conservation and utilization of farm manures, production and utilization of green manure crops; fertilizer materials and their effects on soils; crop rotations; fertilization and long-term maintenance of productivity of mineral soils. Published 1941. 424 pages, illustrated. \$6.00

IRRIGATED SOILS: Their Fertility and Management—

New 1954—Second Edition

D. W. Thorne and H. B. Peterson, Department of Agronomy, Utah State Agricultural College. Dr. Thorne is also Chief of Soils and Fertilizer Research Branch, Tennessee Valley Authority.

An outstanding text dealing with the problems of irrigated regions. In addition to the chapters dealing with irrigation, the salt problem, reclamation of saline and alkali soils, there are chapters on maintaining organic matter in soil, minerals and plant growth, fertilizer elements and fertilizer materials, using fertilizers, soil management for general field crops, for fruit, vegetable and specialty crops. \$6.50

THE RESPONSE OF CROPS AND SOILS TO FERTILIZERS AND MANURES (1954) W. B. Andrews

A new book, with special reference to Anhydrous Ammonia and other sources of nitrogen in liquid form. Deals also with legumes as a source of soil nitrogen, and the uncertainty of green manures; the response of soil to phosphorus, potash and soda; the effect of fertilizers on yield and feeding value of hay and pasture crops. 468 pages, 19 chapters, 89 illustrations. \$4.50

CHEMICALS, HUMUS AND THE SOIL

Donald P. Hopkins

The theme of the book is the necessity of chemical fertilizers to maintain the fertility of the soil. It has concise information on which soil conditions and which chemical fertilizers are most suited for special crops and vegetables. Space is devoted to cereal crops, barley, wheat, oats and rye; to roots and tubers, sugar beets, potatoes, carrots, parsnips and turnips; to vegetable crops, beans, peas, alfalfa, lupines; to grasses and clovers; to onions, flax, kale, cabbages, lettuce, tomatoes, celery, cauliflower and fruits. It clarifies the relationship of manures, compost and chemicals as fertilizers and points out how chemicals should be used to obtain the best results. Its philosophical soundness and logic should do much to avert the confusion of thought introduced by the advocates of compost and manure as against the use of chemical fertilizers. \$8.50

SOIL SCIENCE SIMPLIFIED Helmut Kohnke

A concise textbook dealing with basic concepts of soils. Much useful information for students in agriculture, farmers, fertilizer salesmen, etc. 68 pages, paper bound. \$1.00

MANUAL ON FERTILIZER MANUFACTURE—Second Edition Vincent Sauchelli

Available Oct. 1, 1954. A complete up-to-date revision of this well known book, that reviews in simple, everyday language the processes of manufacture of superphosphates, of ammonium, and the formulation and preparation of mixed fertilizers. Indispensable to fertilizer plant supervisors and operators, and a valuable aid to research men and teachers. New chapters added; on plant nutrition, mixed fertilizers, ammoniation, granulation, revised and brought up-to-date. 80 tables of practical information. \$4.50

COMMERCIAL FERTILIZERS, Their Sources and Use—

Fifth Edition (1955) Gilbeart H. Collings

Based upon the author's practical experience as an experiment station agronomist and teacher, and incorporating information on recent developments by agronomists, chemists, engineers and fertilizer manufacturers. Authoritative on problems concerning commercial fertilizers and their use in gaining larger yields. 100 illustrations, 522 pages. \$8.00

USING COMMERCIAL FERTILIZER (1952)

Malcolm H. McVickar

Dr. McVickar is chief agronomist of the National Fertilizer Association. The book deals specifically with commercial fertilizer, how it is produced and how to use it. It is non-technical. It includes chapters on how to measure fertility of soils, secondary and trade-element plant foods. 208 pages, 106 illustrations, cloth bound. \$3.00

HUNGER SIGNS IN CROPS—Second Edition

A symposium—published jointly by the American Society of Agronomy and the National Fertilizer Association.

A comprehensive study of nutrient-deficiency symptoms in crops compiled by 19 of the leading authorities in the field. It is being widely used by college professors, research and extension specialists, industrial chemists and agronomists, county agents, and teachers of vocational agriculture. Many farmers have found it of particular value in planning their fertilizer programs. Cloth bound, 390 pages, 242 illustrations, including 124 in full color. \$4.50

MANURES AND FERTILIZERS

A survey by the Ministry of Agriculture and Fisheries, dealing with soil analysis, inorganic fertilizers, waste organic substances and principles of manuring. In language to give the farmer basic principles of increasing soil fertility by the application of natural organic manures and synthetic inorganic fertilizers. Many important tables on quantitative data. \$2.50

PLANT REGULATORS IN AGRICULTURE

Dr. Harold B. Tukey

Published September, 1954. A textbook giving background material for county agents, farmers, citrus growers, nurserymen, gardeners; providing fundamentals and general principles; covers encouragement of roots by plant regulators, control of flowering and fruit setting, parthenocarpy, abscission, prevention of preharvest fruit drop, delaying foliation and blossoming, maturing and ripening, inhibition of sprouting and weed control. Brings together specialized knowledge of seventeen authorities in the field, with two chapters written by Dr. Tukey, head of the department of horticulture at Michigan State College. 269 pages. \$5.50

MIDWEST FARM HANDBOOK—New Third Edition

A publication of The Iowa State College Press

Twenty big sections cover all phases of farming, including livestock, the dairy herd, livestock disease prevention, dairy products, poultry and poultry diseases, agricultural engineering, soils and crops, weed control, plant disease control, pest control and other valuable helps to the farmer, feed and fertilizer dealer, etc. 387 pages, with many illustrations in color. \$3.00

THE CARE AND FEEDING OF GARDEN PLANTS

Published jointly by the American Society for Horticultural Science and the National Fertilizer Association.

An entirely new, one-of-a-kind book, it is designed to acquaint readers with nutritional deficiency symptoms or "hunger signs" of common yard and garden plants including lawn grasses, shrubs, flowers, garden vegetables, and cane and tree fruits. It stresses plant "feeding," or "what makes plants grow." Sixteen of the nation's leading horticultural authorities collaborated in its preparation. Cloth bound, 300 pages of text and illustrations including 37 pages in full color. \$3.00

WEEDS—Second Edition (1955)

W. C. Muenscher

Entire book has been revised and reset, with descriptions of seventy weeds added to the original list of five hundred, plus twelve new full-page plates depicting nineteen kinds. Keys and full descriptions provided for identification with detailed illustrations of 331. Types and sources of weeds, their means of reproduction and dissemination, and the amount of damage they inflict on crops. Specific directions for control, with references to chemical methods of recent discovery. \$10.00

WEED CONTROL

W. W. Robbins, A. S. Crafts, and R. N. Raynor

A textbook-manual presenting a modern view of the rapidly developing field of chemical weed control. Reports in detail the research on which most modern herbicide usage is based. Weeds, their reproduction, prevention, biological control, chemicals in weed control. Herbicides, foliage contact applications, hormone-like substances, root applications, evaluations of combinations of chemical applications. Weeds of grasslands and turf. Special weed problems, cropped and uncropped areas. Published 1952. 503 pages, 155 illustrations. \$8.00

INSECT, FUNGUS AND WEED CONTROL

Dr. E. R. de Ong

The information is grouped according to field of application rather than to chemical composition or nomenclature. Chapters on insecticide label, seed disinfectants, herbicides, forest insects and diseases, livestock insects, and the pests found in household and industry. Fumigation of warehouses, residual sprays and preservatives for fruits, vegetables and wood products are covered. An up-to-date guide on pest control with the needs of operators, agricultural and structural specialists carefully considered. Shippers and warehouse personnel will find the book useful. \$10.00

THE CHEMISTRY AND ACTION OF INSECTICIDES

Harold H. Shepard, Entomologist, U.S. Department of Agriculture, formerly Associate Professor of Insect Toxicology, Cornell University.

Treats the chemistry of insecticides, the history of their use, their commercial importance here and abroad, the nature of the major uses, the influence of environment on effectiveness. Materials are arranged according to their chemical relationships. Two chapters relating to organic compounds largely new as insecticides. Illustrative data in form of tables, and a convenient appendix of equivalents arranged for practical use in the field. 504 pages. \$7.00

DDT and NEWER PERSISTENT INSECTICIDES

T. F. West and G. A. Campbell

The first and major part of book is devoted to the physical and chemical properties, manufacture, formulation and applications of DDT. The second part deals with other chlorinated hydrocarbons whose insecticidal properties have been discovered recently and compares these new insecticides with DDT. The preparation of aqueous suspensions, solutions, emulsions, and dusts containing DDT, the compatibility of DDT with other insecticides, fungicides and additives are covered in detail. Contains dozens of tables on the solubility of DDT in various solvents, the catalytic activity of accessory substances in the presence of DDT, analogues of DDT, the comparative toxicity, hydrolysis and solubility of DDT analogues, the toxicity of DDT for almost all important insects, etc. Many illustrations. \$8.50

APPLIED ENTOMOLOGY, Fifth Edition

H. T. Fernald and Harold H. Shepard

This text since 1921 has had an outstanding record of usefulness. The Fifth Edition preserves the general organization and coverage, with changes to improve the presentation and to incorporate new knowledge. Contains chapters on anatomy, physiology and development. The economic importance and control of insects are discussed in a general way with much attention to insecticides. The classification of insects is emphasized, with examples drawn from species conspicuous for being very harmful or decidedly beneficial. Specific control measures included for injurious forms. Last chapter considers other pest animals. 385 pages. \$7.00

CHEMICAL BUSINESS HANDBOOK

Dr. John H. Perry

1,300 double column pages, the equivalent of several average books; 700 illustrations, by 124 contributors. Market research data section is 280 pages, business mathematics 200 pages, financial and accounting 142 pages, research and development 150 pages, sales and advertising 92 pages, twenty sections in all. The book deals with chemical management problems and is useful to technical men, engineers and executives, in the chemical and allied fields. Dr. Perry is editor of the Chemical Engineers Handbook, a companion publication. \$17.00

No C. O. D.'s

Reader Service Department CROPLIFE Order From P.O. Box 67 Minneapolis 1, Minnesota

VA Lowers Nitrate Price in Tennessee River Watershed Area

KNOXVILLE—The price of ammonium nitrate fertilizer has been lowered by TVA to promote fall and winter grazing and cover crop programs in the Tennessee River Watershed.

Each of the farms in the 62 counties that drain into the river may purchase four tons of the fertilizer at the discount rate, L. J. Strickland, in charge of the Extension Service-VA cooperative program in Tennessee, announced.

Prices are on a graduated scale with the largest discount in July. Use of the fertilizer is limited to selected crops of small grains, legumes and annual grasses.

FEES

(Continued from page 1)

ties of operation were not readily seen. In the brief period of administration, however, certain frictions were discovered and in this instance FDA has moved to remedy one.

For example, a manufacturer may have already received a tolerance level for his product but wishes to use the same product in virtually the same agricultural field with the same residual tolerance level continued for the additional usage. FDA notes that the requirement of an additional \$500 fee deposit is manifestly unfair.

In amending its rules FDA has determined that only a \$50 clerical handling fee be deposited plus an additional \$50 for administrative review for each raw agricultural commodity on which a temporary tolerance is sought.

This brings such fees in line with government costs. Since this administration has been in office it has been Budget Bureau policy to pass back to industry charges of this kind as well as inspection charges for food commodities required under other laws and regulations.

PETITIONS

(Continued from page 1)

culture research plant at Beltsville, Md., and is a pyrethroid.

Beltsville scientists say that this product has largely been used in the fruit and vegetable field and testing is under way now for possible expansion as a grain protectant against weevil. In this latter use potential it is understood that the allethrin is combined with a dust for direct application to grains.

The mere filing of the petition for exemption does not automatically grant permission for such use, however. Under the law FDA has a period of 15 days to review data submitted by the applicant to ascertain if the applicant has submitted all necessary material.

In addition it is required that the secretary of agriculture in turn submit within 30 days a certification of its usefulness in the field for which the application has been made. Within 90 days after this filing of all required reports and data, FDA may then fix a tolerance for use of the pesticidal chemical between zero and such safe use level as is determined.

Two applications for tolerance for residues have been submitted to FDA by E. I. du Pont de Nemours and Co., Wilmington, Del. They cover trade marked products of that company known as Karmex-W and Karmex-DW.

Du Pont is requesting a tolerance of three parts per million for each of these products—Karmex-DW for use on sugarcane, pineapple and cottonseed, and Karmex-W for use on asparagus, sugarcane, pineapple, onions, spinach and cottonseed.

INSECT NOTES

(Continued from page 5)

light. Lygus bugs are also present in cotton, but no heavy infestations have been reported.

Red spider mites are general but light in cotton throughout Dona Ana and Chaves counties. Yellow clover aphid infestations in alfalfa are spotty throughout Dona Ana, Chaves and Valencia counties. Thrips populations are very high in most alfalfa fields, especially in seed fields.

Lygus bugs are building up in seed alfalfa fields. Some fields have as many as 60 adults and nymphs per 100 sweeps. Bollworms are present in damaging numbers in a few alfalfa seed fields in Chaves County. Pea aphids were present in large numbers in one seed field examined in Chaves County.

Grasshoppers are overrunning cultivated crops in Mora County. A medium, county-wide infestation on both range land and cultivated crops is reported from San Juan County. Range lands in Union County, approximately 500,000 acres, are heavily infested with grasshoppers.—John Durkin.

Boll Weevil Population Low in North Carolina

RALEIGH—The boll weevil situation continued to show slow populations in most all counties with a few fields showing high populations with from 20 to 50% of the squares injured. This condition is beginning to show up even in lower Piedmont where populations generally have been extremely low.

Bollworms are appearing in some individual fields. The situation does not appear general in any area but Wayne and Scotland counties noted a number of worms in some fields. A few fields in Cleveland are showing mites but the situation is holding its own rather than increasing.

Codling Moth Activity in Indiana

VINCENNES, IND.—Codling moth activity is about as predicted during the last period. Second brood entries are increasing daily where protective sprays have not been applied within the past 14 days. Bait trap captures of adults increased the night of July 11. Adults emerging from first brood larvae in the emergence cages totaled 399 during the past 7 days, as compared to 185 for the 7-day period ending July 5. Larval attack will be high for the next two weeks.—D. W. Hamilton.

Fertilizer Sales Dip In South Carolina

CLEMSON, S.C.—Fertilizer shipments in South Carolina during the fiscal year ended June 30 totaled 923,915 tons, according to data compiled by the state Department of Fertilizer Inspection and Analysis.

This figure is 1.4% below the 936,558 tons reported for the corresponding period a year earlier.

The 1954-55 total included 645,477 tons of mixed fertilizer, 219,865 tons of nitrogenous materials, 30,614 tons of phosphatic materials, 24,979 tons of potassic materials and 2,980 tons miscellaneous.

TO STUDY PLANT PEST

NEW HAVEN, CONN.—Dr. Mary Franklin, of the nematology department, Rothamsted Experimental Station, Harpenden, Herts, England, is working with the plant pathology staff of the Connecticut Agricultural Experiment Station, according to Dr. James G. Horsfall, director. Dr. Franklin is on a 3-month appointment. She will seek more effective ways to control nematodes.

Team up your fertilizers with...

Fertilizer Borate high-grade

THE
LOW-COST
EQUIVALENT
OF BORAX
FOR
AGRICULTURE

MANUFACTURERS! DEALERS!

*Borate your
fertilizers...*

FOR INCREASED SALES
AND BETTER CROPS!

Specially developed for
the Fertilizer Trade

Here's borax at the lowest cost per unit . . . it's FERTILIZER BORATE with higher analysis and lower unit cost. The high boron content of this product is readily available in a form ideally suited to agricultural requirements. You'll blend the FINE MESH with other plant foods for borated fertilizers and offer the COARSE MESH for direct applications.

13.6%

Equivalent to
121% BORAX

44%
Boron Trioxide

Other Borates

COLEMITE-High Grade...a slowly soluble lime borate for light and porous soils, or in regions of high rainfall. Content of B_2O_3 ranges from 32% to 35%. Bulletin PF-2.

POLYBOR-2...Highly soluble. Contains 20.5% Boron or 66% B_2O_3 . Applies as a spray or dust; compatible with insecticides and fungicides currently in use and may be applied in the same solutions. Bulletin PF-4.



PACIFIC COAST BORAX CO.

300 SHAW'S PLACE, LOS ANGELES, CALIF. • 100 PARK AVE., NEW YORK CITY

Write to the office nearest you for information

AUBURN, ALABAMA • 1st National Bank Bldg.
CHICAGO, ILLINOIS • 2031 North Ave., R.W.
FOOTMOUNT, IOWA • P.O. Box 1441
HOUSTON, TEXAS • 1500 Hadley Street
MADISON, WISCONSIN • 1000 Capital Ave.



WORLD REPORT

By GEORGE E. SWARBRECK
Croplife Canadian and Overseas Editor

Business in anhydrous ammonia in Canada is booming. The demand from the farmers of the prairie provinces shows no signs of abating and already one firm is dusting off plans made in the event of an increased demand showing. The demand, in fact, has shown much earlier than expected.

When Sherritt Gordon Mines, Ltd., built its ammonia plant at Fort Saskatchewan, Alta., it was thought that a capacity of 75 tons a day would be ample to fill the firm's own requirement in the ore leaching process with a balance left over for the fertilizer market. The plant was so designed that output could be doubled to 150 tons with but a modest capital outlay.

There was no expectation that the extra requirement would arise in the immediate future but it has done so, and now serious consideration is being given to upping the plant's capacity. Besides anhydrous ammonia, some of the extra production could wind up as ammonium sulfate, already produced as a by-product of the Fort Saskatchewan operations.

Weed Course

The British Weed Control Council is organizing a technical course on weed control for dealers who already have some knowledge of agricultural chemicals.

The course, to be held at the Royal Agricultural College, Cirencester, Sept. 19-22, will consist of lectures, reviewing the present position of chemical weed control, and of demonstrations giving practical examples of the methods described. Botany, chemistry and the machinery used in weed control operations will be covered in the course.

Portugal to Import

The government of Portugal has authorized the importation of 5,000 tons ammonium sulfate. Though local production is increasing the demand by the market cannot be met. Import business will be handled by the Uniao Fabril do Azoto, itself a leading producer.

This firm increased its output from 19,828 tons in 1953 to 33,340 tons last year.

The other large Portuguese producer is Amoniaco Portugues and here again production was upped considerably. The comparative figures are 14,593 tons and 25,398 tons.

Neither company is working to capacity because of a shortage of electrical power.

Fertilizer Society

At the eighth annual meeting of the British Fertilizer Society, held in London recently, attention was drawn to the large overseas membership which now accounts for 18% of the

total and is drawn from 22 countries.

J. T. Procter, the retiring president, considers that this is due to the growing recognition of the value of the society's transactions, which are all closely concerned with the science and technology of fertilizer manufacture and usage.

Sugar Crop Increase

Dr. Panjabrao Deshmukh, an official of the Indian Ministry of Agriculture, revealed at a recent press conference that the yield of sugar cane had been hiked 20%. Production this year will touch an all time high of 1.6 million tons, 600,000 tons more than last year.

Dr. Deshmukh attributed the increase to the use of fertilizers, particularly ammonium sulfate, following the drive for increased usage launched by the government last year.

Earl W. Kersten To Head Sales for Campbell Chemicals

ST. LOUIS—Earl W. Kersten has been appointed vice president in charge of sales of Campbell Chemicals, Inc., 3807 South Kingshighway Blvd., St. Louis, Mo., it was announced recently by Carl N. Campbell, president.

Mr. Kersten was formerly division manager of Dodge & Olcott, Inc. for the Atlanta-Georgia area. He will handle sales for all of Campbell products including Camicide insect spray, Camicide garden dust, Camicide garden spray, Sanitaire Deodorizer, Camicide cattle spray and Camicide bug repellent.

Florida Consumption

TALLAHASSEE—Fertilizer consumption in Florida during May totaled 179,466.5 tons, according to the state Department of Agriculture. The total included 117,840.6 tons of mixed goods and 61,625.9 tons of materials.

NATURE and PREVENTION of PLANT DISEASES

By K. STARR CHESTER, Ph.D.—Stresses the practical aspects of plant disease control. Presents the essential features of plant pathology as exemplified in the leading diseases of important American crops. Extensive revisions of seed treatment, and spraying and dusting of fruits and vegetables are included. The latest developments in control practices, including the slurry, pelleting and vapor-heat methods of seed treatment, new non-metallic organic fungicides, innovations in methods of spraying and dusting are discussed.

525 Pages; 224 Illustrations \$5.00

COMMERCIAL FERTILIZERS, Their Sources and Use

4th Edition, by GILBEART H. COLLINGS, Ph.D.—

Based upon the author's practical experience as an experiment station agronomist and teacher. Incorporates information on recent developments by agronomists, chemists, engineers and fertilizer manufacturers. An authoritative source on all problems concerning commercial fertilizers and their use in gaining larger yields of field and horticultural crops.

522 Pages; 160 Illustrations \$5.00

ORDER FROM

CROPLIFE, 2501 Wayzata Blvd., Minneapolis 5, Minn.

Dow Announces Program for Educational Grants to Colleges

MIDLAND, MICH.—Gifts totaling more than \$300,000 for educational grants to colleges and universities for the advancement of science and engineering have been announced by the Dow Chemical Co. Allocations have been made to various institutions throughout the country for the academic year 1955-56.

In announcing the aid-to-education program, Dr. Leland I. Doan, Dow president, said that although the company has been providing financial assistance in the field of higher education for many years, the program has been largely exploratory until recent years.

"Dow Chemical recognizes there is a growing need for industrial assistance to colleges and universities," Dr. Doan said. "As a result, our aid-to-education program has increased steadily over several years, with the 1955-56 grants substantially higher than amounts allocated in previous years.

"Our company takes the position that industry has an obligation to society to help support education as an important instrument in industrial and cultural progress. Besides, Dow has a vital stake in educational development and the maintenance of high standards of teaching because our company, along with other industrial concerns, looks to our schools for a continuous flow of trained people to fill technical and other positions."

A major phase of the aid-to-education program is the authorization of \$133,500 for distribution to 38 colleges and universities for the establishment of graduate fellowships and undergraduate scholarships and to two educational foundations for use in assisting deserving students.

Another part consists of \$167,500 allocated to 19 institutions, most of it earmarked for their unrestricted use in current expansion and operating programs. The bulk of these contributions goes to Case Institute of Technology, Cleveland, where the company's founder, Dr. Herbert H. Dow, was educated, and to the Michigan College Foundation with 14 liberal arts colleges participating.

Over and above these grants, the company has allocated \$140,000 for distribution to a number of schools for research on specific projects which supplement the company's own research in various fields.

C. A. Dillon Joins Raymond Bag Co.

MIDDLETOWN, OHIO—Charles A. Dillon has been appointed district representative for the Raymond Bag Co., it has been announced by H. A. Kennington, general sales manager.

With a background in industrial sales, Mr. Dillon will direct sales of Raymond multi-wall paper shipping sacks in Texas, Louisiana and Arkansas, with headquarters at Houston, Texas. He and his family live in Houston.

INDIANA MUCK CROP DAY

LAFAYETTE, IND.—Lt. Gov. Harold Handley, Indiana commissioner of agriculture will be one of five speakers at the State Muck Crop Field Day July 21. Roscoe Fraser, extension horticulturist at Purdue University, and Arthur Shideler, Starke county agent, program chairman, have announced that the event will open at 10 a.m. on the Richard Gunz farm, four miles southwest of North Judson.

Demonstration plots which will be seen include potato varieties, potato fertilizer trials, corn varieties, corn fertilizer trials, potato irrigation on sand, deep plowing of muck as it affects mint and other muck crops, hybrid mints and general farming.

Israeli Firm Opens Potassium Sulfate, Phosphoric Plants

LONDON—Fertilizers and Chemicals, Ltd., the Israeli firm, has opened two new plants at Haifa, one for the production of potassium sulfate, the other for phosphoric acid.

The firm states that the potassium sulfate plant is expected to have a yearly output of 14,000 tons and most of this will be sold in export markets. Hydrochloric acid, used for the production of di-calcium phosphate, is a by-product of the operation.

The output of phosphoric acid is currently set at 7,500 tons a year but facilities are available for doubling this, if the necessity arises. The accent is currently on the greater use of superphosphate and if the expectations of the Israeli authorities are fulfilled, the need to increase the plant's capacity will arise in the near future.

A third plant for the production of di-calcium phosphate is already partly in operation. The initial output is reported by the firm at around 7,000 tons and at least half will be exported.

Before the end of the year Fertilizers and Chemicals, Ltd., hopes to complete the construction of other plants for the production of ammonia, ammonium sulfate, nitric acid and ammonium nitrate. The company, which has a variety of international shareholders, including some from Canada, the U.S., South Africa and the U.K., has been aided in its expansionist moves by a loan of \$5 million from the U.S. Export-Import Bank as well as by money invested by the government of Israel.

In 1954, the company produced 80,000 tons superphosphate. All raw materials, except pyrites, are of local origin. Phosphates come from the Great Crater in the Negev and potash from the Dead Sea deposits at Sodom. Included on the staff are some U.S. engineers.

Herbicide Use Limited In Spain, Visitor Says

SACRAMENTO—The use of chemicals in the control of weeds has only recently been introduced in Spain and even now is employed only on a limited basis, according to Jose Maria Del Rivero, a recent visitor to the California Department of Agriculture.

Senor Del Rivero came to the U.S. under sponsorship of the Foreign Operations Administration of the U.S. Department of State. He is an official of the Spanish Ministry of Agriculture, Fisheries and Food and is stationed at the experiment station in Valencia, Spain.

During the week he spent in Sacramento, Senor Del Rivero visited the Bureaus of Rodent and Weed Control and Seed Inspection, Chemistry, Pathology and Entomology.

New York Nurseries Form Gardening Council

NEW YORK—Five of the country's largest retail nursery companies, all located in western New York, have formed an organization called the Gardening Council, it was announced today by Paul Newton, chairman of the board of the new organization. Mr. Newton also announced that the presidents of the five companies would constitute the board of directors of the Council.

The five companies are: Empire Nursery Products Co., Inc., Henry Robbins, president; Knight & Wick, Richard Vickery, president; William C. Moore & Co., John Keane, president; Quaker Hill, Inc., Charles Pulver, president; and C. W. Stuart & Co., Arthur Christy, president.

Organic Totals

WASHI...
in 1954 total...
of 356 millio...
Sales in...
with 1953 sa...
A comp...
of Croplife. I...

Product—

Fungicides and...
Naphthalene...
Phenyl me...
8-Quinolin...
salt.
2,4,5-Trich...
2,4,5-Trich...
All other...

Herbicides and...

Naphthalene...
derivative...
Phenoxyacetic...
2,4-Dicloro...
2,4-Dicloro...
sec-Butoxy...
Isopropyl...
All other...

2,4-Dichloro...

2,4,5-Trichloro...

2,4,5-Trichloro...

Phenyl n...
All other...

Insecticides, ...
Hexachloro...

chloride...

Parathion...

1,1,1 - Trieth...
All other...

Total ...

Fumigants, ...
Fungicides, ...
and ins...
Fungicide...
Dimet...
C...
Insecticid...
Ethyl...
All other...

Total ...

Grand...

*Calculated

†Includes

hydrazine, an...

†Production

pounds; sales

†Includes

and a small a...

†TEPP i...

§§Includes

malathion, O...

SAFETY B...

Company's

heralding t...

ing a single...

disabling ac...

W...

T...

SAFETY B...

Company's

heralding t...

ing a single...

disabling ac...

More Fir...

For Calif...

SAN FR...

33 firms ha...

commercial...

by the bu...

State Dep...

since March

Sixteen c...

ated in no...

southern C...

out of the...

During t...

Organic Chemical Production in 1954 Totals 419 Million Pounds for 18% Gain

WASHINGTON—Production of all pesticides and other organic chemicals in 1954 totaled 419 million pounds, an increase of 18% over the 1953 output of 356 million pounds, the U.S. Tariff Commission reported recently.

Sales in 1954 were 336 million pounds, valued at \$124 million, compared with 1953 sales of 334 million pounds valued at \$119 million.

A complete story of the report appeared on page 1 of the July 11 issue of Croplife. Following is a table of 1954 production and sales.

Product—	Pesticides and Other Organic Agricultural Chemicals, Cyclic			
	Production 1,000 lb.	Quantity 1,000 lb.	Value 1,000 dollars	Unit value* per lb.
Fungicides and seed disinfectants, total	57,993	46,707	20,441	\$0.44
Naphthenic acid, copper salt	3,557	3,250	720	.22
Phenyl mercuric oleate	142
8-Quinolinol (8-Hydroxyquinoline), copper salt	64	267	4.17	
2,4,5-Trichlorophenol	2,785
2,4,5-Trichlorophenol, sodium salt	2,018
All other	49,491	43,393	19,454	.45
Herbicides and plant hormones, total	63,462	31,890	22,580	.71
Naphthalene and naphthoxyacetic acid derivatives	...	12	59	4.92
Phenoxyacetic acid, salts and derivatives:				
2,4-Dichlorophenoxyacetic acid (2,4-D)	30,184	10,665	5,189	.49
2,4-Dichlorophenoxyacetic acid esters, total	16,920	8,573	4,531	.53
n-Butyl 2,4-dichlorophenoxyacetate	2,320	2,247	997	.44
sec-Butyl 2,4-dichlorophenoxyacetate	...	1,111	452	.41
Isopropyl 2,4-dichlorophenoxyacetate	6,006	2,212	1,304	.59
All other	8,595	3,003	1,778	.59
2,4-Dichlorophenoxyacetic acid salts	5,615	6,507	2,554	.39
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	2,697	1,409	1,610	1.14
2,4,5-Trichlorophenoxyacetic acid esters	3,877	1,350	1,748	1.29
Phenyl mercuric acetate	598	525	2,878	5.48
All other	3,571	2,849	4,011	1.41
Insecticides, total	235,527	200,312	58,926	.29
Hexachlorocyclohexane (Benzene hexachloride)†	76,934	53,339	5,891	.11
Parathion (O,O-Diethyl O-(p-nitrophenyl) phosphorothionate)	3,889	4,905	6,494	1.32
1,1,1 - Trichloro - 2,2 - bis(p-chlorophenyl) ethane (DDT)	97,198	91,548	21,603	.24
All other‡	57,506	50,520	24,938	.49
Total	356,982	278,909	101,947	\$0.37
Pesticides and Other Organic Agricultural Chemicals, Ayclic				
Fumigants, total	34,648	30,677	5,867	\$0.19
Fungicides, seed disinfectants, herbicides and insecticides, total	27,093	26,219	16,489	.63
Fungicides and seed disinfectants:				
Dimethylthiocarbamic acid, sodium salt	471	379	152	.40
Dimethylthiocarbamic acid, zinc salt (Ziram)	1,117	1,062	559	.53
Insecticides:				
Ethyl pyrophosphate (Tetraethylpyrophosphate) (TEPP)§	361	386	344	.89
All others	25,144	24,392	15,434	.63
Total	61,741	56,896	22,356	\$0.39
Grand total	418,723	335,805	124,303	\$0.37

*Calculated on rounded figures.

†Includes such materials as dinitro compounds, isopropyl carbanilate (IPC), maleic hydrazide, and a small amount of phenoxyacetic acid derivatives.

‡Production of the gamma isomer content in benzene hexachloride totaled 11.5 million pounds; sales amounted to 8.1 million pounds.

§Includes aldrin, heptachlor, chlordane, DDD, dieldrin, endrin, EPN, lindane, toxaphene, and a small amount of rodenticides.

||TEPP is 40% ethyl pyrophosphate.

§§Includes ferbam, organic mercury fungicides, manzate, nabam, zineb, sodium TCA, malathion, OMPA, soil conditioners and a small amount of rodenticides.

Winners Named in California Fertilizer Essay Contest

SAN MARINO, CAL.—John C. Gritz, Jr., a student of Santa Ana (Cal.) Junior College, has won the grand award, \$100 cash, for having submitted the best essay in the 1955 California Fertilizer Essay Contest. The annual competition is sponsored by the Soil Improvement Committee of the California Fertilizer Assn. Mr. Gritz's school will have possession of the association's perpetual trophy for the next year.

Forrest Fullmer, Newport Beach, chairman of the contest subcommittee, in announcing this year's awards, said, "each year the quality of the essays submitted increases, and this year they were generally quite good. Student interest seems to be high and we hope that next year's contest will see

increased interest and participation."

Checks of the Soil Improvement Committee in the amount of \$25 were presented to each of the following, who submitted the best essay from his school:

Carrell W. Pittman, Ventura Junior College, Ventura; Ronald Fullner, Chaffey Junior College, Ontario; Wayne Smithson, Orange Coast Junior College, Costa Mesa; James Kessler, Modesto Junior College, Modesto; Ken Dunster, Mt. San Antonio Junior College, Pomona; Estelle Slater, C. W. Pierce School of Agriculture, Canoga Park; Jack D. Ford, Fullerton Junior College, Fullerton; and Carl Lagrutta, Stockton College, Stockton.

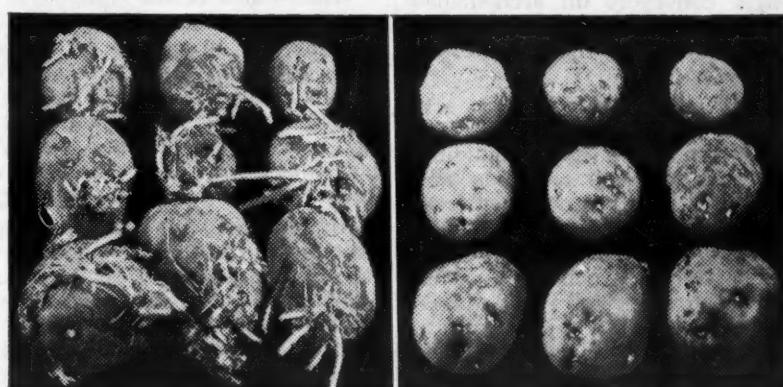
ELM DISEASE SPREADS

BOSTON—Dutch elm disease has hit eight more Massachusetts towns, making a total of 325 communities affected by the tree blight.

NO SPROUTING no weight loss in storage! PRE-HARVEST SPRAY

with

MH-40



Stored potatoes untreated

Treated before harvest with MH-40 storage growth retardant

Insures top market price for potatoes and onions even after many months of storage...harmless, non-toxic...does not affect quality or yield.

WHOLESAVERS AND CHIPPERS WANT potatoes that will not lose value in storage. When treated with MH-40, potatoes for chipping stay whiter and firmer longer, and lighter chips result. All buyers can safely carry larger inventories.

RETAILERS WANT potatoes and onions that will keep their sales appeal and value on the shelf. MH-40 is the answer.

HOUSEWIVES WANT potatoes and onions that look and taste fresh-from-the-farm. Potatoes treated with MH-40 won't sprout even when stored at home at high temperatures.

GROWERS WANT a crop they don't have to rush to market for fear it will lose its value. MH-40 pre-harvest spray gives this profit protection. It is inexpensive and easy to apply. The time to use it (for potatoes) 14 to 21 days after full bloom. (For onions) one to two weeks before harvest. If your crop is nearing this stage—get MH-40 now! It will produce a crop that will meet the highest standards of buyers, retailers and housewives—and assure you of getting top price at market.

*U. S. Pat. No. 2,614,918

Order MH-40 from your local supplier today. Write, wire or phone us if unable to locate immediate source of supply.

Naugatuck Chemical
Division of United States Rubber Company
Naugatuck, Connecticut



producers of seed protectants, fungicides, miticides, insecticides, growth retardants, herbicides: Spergon, Phygon, Aramat, Synklor, MH, Alanap, Duraset.

More Firms Register For California Sales

SAN FRANCISCO—An additional 33 firms have been registered to sell commercial fertilizers in California by the bureau of chemistry of the State Department of Agriculture, since March 15.

Sixteen of the companies are located in northern California, ten in southern California, and seven from out of the state.

During the same period, 12 com-

panies have been registered to sell agricultural minerals. Five of these are located in the northern half of the state, two in the southern half, and five from out of state.

ASC APPOINTMENT

WASHINGTON—Ezra Taft Benson, secretary of agriculture, has announced appointment of S. Roger Mills of Wheatland as a member of the Wyoming Agricultural Stabilization and Conservation Committee. Mr. Mills replaces Earl N. Romig of Wheatland who recently resigned.

NEW GRANULATION PROCESS**300 From 24 States, Canada Tour Ark-Mo Fertilizer Plant**

By JAMES W. MILLER
CropLife Editorial Staff

MEMPHIS—Nearly 300 fertilizer manufacturers, their operative and research personnel and other interested persons toured the new Ark-Mo Plant Food Co. fertilizer plant in nearby Walnut Ridge, Ark., July 6-8 at the invitation of Ark-Mo and the Spencer Chemical Co.

Because of particular interest in a new fertilizer granulation process developed jointly by the sponsors, representatives of the fertilizer trade were attracted from all over the country. While not the first design of granulation equipment, the Ark-Mo and Spencer process claims to have found a process which offers a combination of better quality and reduced cost.

Fertilizer manufacturers from at least 24 states and Canada gathered at the Claridge Hotel here for the daily trips over to the Walnut Ridge plant 100 miles inside northeastern Arkansas. Tours were conducted on each of the three days, with the largest crowds going through the plant July 7.

Located on the site of a government air base, the Ark-Mo plant utilizes two airplane hangars for raw product and finished product storage. The new plant is located between the two hangars with truck and rail unloading facilities adjacent to each side of the plant. Dry raw materials are conveyed into storage by means of screw conveyors on arch-shaped tracks which regulate location of the piles of materials in the storage location.

Nearby liquid storage includes several tanks for liquid nitrogen located in a heat-regulated frame building, tanks for anhydrous ammonia and sulfuric acid. Water is obtained from the city water supply and steam is furnished by a 55 h.p. boiler.

Raw materials such as normal superphosphate, triple superphosphate, potash and ammonium sulfate are delivered to the raw materials elevator by means of a tractor shovel. An elevator which is equipped with a clod breaker moves the materials to four hoppers. Each hopper is followed by an Omega gravimetric feeder which delivers the materials to a common conveyor belt.

The belt carries the materials to an elevator where they are lifted to either or both of two 10 mesh screens. Oversized materials then go through pulverizers and the mixture of raw materials passing the screen flows into the ammoniator-granulator—the key machine of the whole process.

Liquid raw materials reach the ammoniator-granulator by means of a liquid mixing pipe. For formulas which require nitrogen anhydrous ammonia and water combination, the various liquids are mixed in the pipe and flowed into the granulator through a sparger. Rate of flow is regulated by flow meters in the control room of the plant. Other liquids used include sulfuric acid and steam. Since neither of these is used in combination a single flow meter and acid sparger are provided for sulfuric acid and steam.

In an air-conditioned room at the top of the plant is the control room. It is within a few feet of the discharge end of the ammoniator-granulator and houses starters, flow meters, a temperature recorder, gravimetric feeder recorders and bin level indicator lights. Success of the entire process depends upon accurate handling of the controls, it was pointed out.

The key machine—the ammoniator-granulator—is the only major piece of equipment of special design in the

plant. It is a drum seven feet in diameter and eight feet long. Ammoniating is accomplished in the first four feet of the drum and granulating in the last four feet. A fan blows air onto the mixture in the drum and steam generated by the chemical reaction is removed by a suction fan.

The tumbling action of the machine and the contact of dry and liquid materials cause the fertilizer to reach the end of the drum in small, granular particles. These are conveyed to the dryer. oversized pieces are separated by a scalper and made to pass through a roll crusher before entering the dryer.

The dryer is eight feet in diameter and 40 feet long. Directional flights move the material away from the intake end and lifting flights carry the material to the opposite end. A vibratory conveyor carries the product to a cooler which is seven feet in diameter and 30 feet long. Flights lift and spill the product, aerating it as it passes through the cooler. The material then reaches the finished product screen equipped with a 6 mesh top and 14 to 20 mesh bottom depending upon grade being made. oversized pieces pass through a crusher and the fines flow into the recycle hopper. On-sized material flows onto the finished product conveyor belt and thence to storage in the finished product hangar. Bagging equipment also is contained in this building.

While much of the equipment was assembled and developed on the property by the owners, an estimate of the value of the new plant is around \$360,000. Head of Ark-Mo Plant Food Co., Inc., is Laney G. Black, of Corning, Ark., about 40 miles from Walnut Ridge. Mr. Black also is well known in the cottonseed industry.

An individual who had an important part in the development of the new granulation process was Arvel Hicks, of the Ark-Mo staff. Overseeing the project from the Spencer end were Joe C. Sharp, manager of agricultural technical services for Spencer and Jim MacArthur of the research department.

The Spencer company entertained visitors each night preceding the tours with cocktails and dinner at the Claridge Hotel. Air conditioned buses were provided for the trip from Memphis to Walnut Ridge each day. A guide was provided for every group of five visitors.

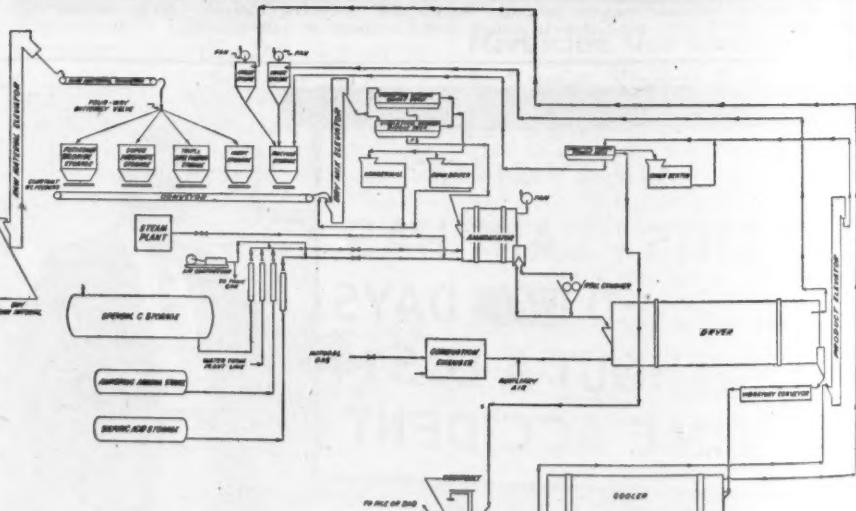
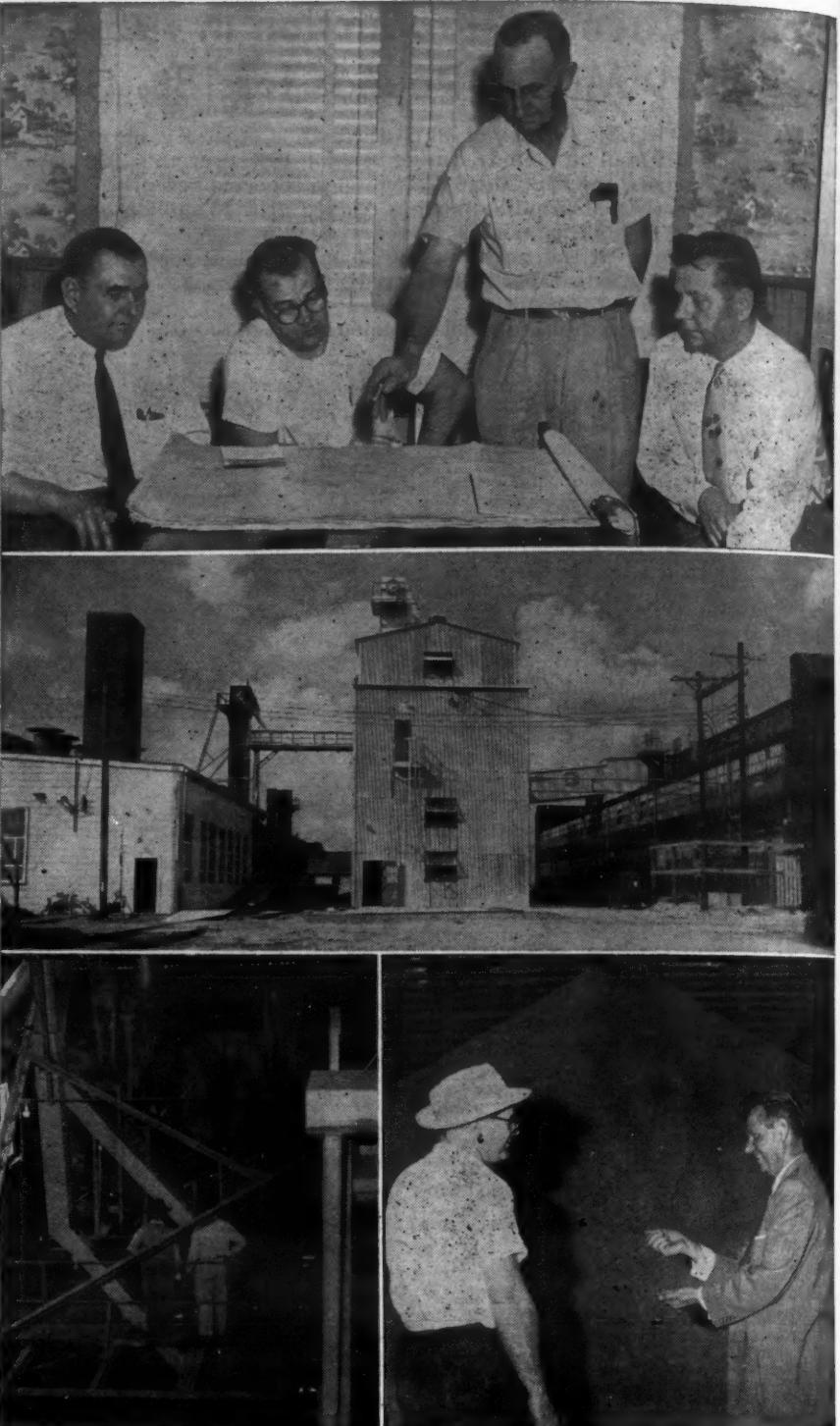
In the experimental runs at the plant, Ark-Mo has been successful in producing 14-14-14 which derives all the nitrogen from a 37% nitrogen solution. Complete data will be developed later on other grades, it was indicated.

Nopco Chemical Acquires Assets of Griffin Chemical

HARRISON, N.J.—Nopco Chemical Co. has acquired the assets of the Griffin Chemical Co. of San Francisco, according to a recent announcement by Perc S. Brown, director and vice president in charge of Nopco's western division.

Mr. Brown said that the move was the initial step in Nopco's planned further expansion by acquisition on the Pacific Coast.

Everett Griffin, who organized Griffin Chemical Co. in 1935, will be associated with Nopco at Richmond, Cal. in an executive capacity. The Griffin firm is a manufacturer of emulsifiers, petroleum sulfonates, naphthenic acid, plasticized and polyvinyl acetate emulsion.



NEW GRANULATION PROCESS—Above are scenes at the Ark-Mo Plant Food Co. plant in Walnut Ridge, Ark., where a new fertilizer granulation process was unveiled recently. In the top photo are the men who sparked the new plant design. From left to right are Earl Day of Ark-Mo., Jim MacArthur of Spencer Chemical Co., which designed the plant, Arvel Hicks of Ark-Mo and Joe C. Sharp of Spencer.

The center photo shows where the new process was born. The raw materials warehouse is at the left, the ammoniation and granulation building in the center and a converted airplane hangar serving as finished product storage is at the right.

Shown in the picture at the left, third row, is the ammoniator-granulator, a special feature of the plant. Right, shows Mr. MacArthur, Spencer research man, and Mr. Sharp, head of Spencer technical service, inspecting the finished product.

The lower chart is a flow diagram of the plant.

St. Regis Gets Options On Ohio Firm's Stock

NEW YORK—St. Regis Paper Co. and General Container Corp. of Cleveland, Ohio, have announced jointly that the holders of substantially more than the majority of General's outstanding capital stock have signed an agreement granting St. Regis options to acquire their shares in ex-

change for shares of St. Regis common stock.

St. Regis will make an offer to all holders of General's capital stock to exchange their shares for St. Regis common stock on the same terms as the present options. Under the terms of the offer, the holders of General's capital stock would receive 2% shares of St. Regis common for each share of General.

GRAIN

(Continued)

hums which tolerance lev administrative drug. Those toler in effect until crop year on probably be t effect that time. The market will be sanitation to farm stored programs f now in force through June the loan defa in 1956.

Failure of comply with station will n may be face if his wheat default, fails standards of

The farm and must aect his fa the exception infestation forthcoming

One vital iing was from representatives, W secretar Trade Counc Hendrickson, the National operatives.

They calle service offic earmarked o priations for sanitaion pr stated by the men, that coordination activities.

Mr. Hendr informal c generally in was need for and const study from mand.

To this p agreed that very desirabpected that tension serv ministrative ball rolling m ade.

Common Authorize

ST. LOUIS held here r of Monsanto increase the stock of the shares of \$25,000,000 s each and a split of the stock of the

Certificatio shares by stockhol close of bus mailed to the July 26. At stockholders' in crease new shares, shares auth options to en five years.

GRAIN SANITATION

(Continued from page 1)

hums which falls within the present tolerance levels, in effect through administrative action of the Food and Drug Administration.

Those tolerance levels will remain in effect until the start of the next crop year on July 1, 1956 and will probably be tightened as to all grains at that time—with the possible exception of corn.

The marketing of the current harvest will be subject to FDA existing sanitation tolerance standards. On farm stored grain under CCC loan programs farmers will be wholly responsible for sanitation standards now in force through the period through June 30, 1956 and through the loan default take-over date early in 1956.

Failure of farm stored wheat to comply with FDA standards of sanitation will mean that the producer may be faced with bills from CCC if his wheat, delivered under loan default, fails to comply with FDA standards of tolerance.

The farmer is now on his own and must act affirmatively to protect his farm stored crops—with the exception of corn—from weevil infestation and rodent contamination.

The favorable outlook for pesticide and chemical companies in the FDA sanitation field is found in the harmonious climate of the recent USDA sessions, wherein all heated controversies and antagonisms were buried in an apparent cooperative effort to attain FDA goals—even the tighter restrictions which probably will be forthcoming next year.

One vital issue raised at the meeting was from the grain trade representatives, William F. Brooks, executive secretary of the National Grain Trade Council and his colleague, Roy Hendrickson, executive secretary of the National Council of Grain Cooperatives.

They called attention to extension service officials that Congress had earmarked extension service appropriations for research and study of sanitation problems. However, it was stated by these grain trade spokesmen, that there was no point of coordination and control of such activities.

Mr. Hendrickson commented that informal committee action was generally inadequate and that there was need for a formal tight control and constant spur to research and study from a central point of command.

To this point even FDA officials agreed that such a tight rein was a very desirable feature. It may be expected that under this prodding extension service will assign some administrative focal point to keep the ball rolling now that a start has been made.

Common Stock Increase Authorized for Monsanto

ST. LOUIS—At a special meeting held here recently the stockholders of Monsanto Chemical Co. voted to increase the authorized common stock of the company from 6,000,000 shares of \$5 par value each to 25,000,000 shares of \$2 par value each and authorized a three-for-one split of the outstanding common stock of the company.

Certificates representing two additional shares for each share owned by stockholders of record at the close of business on July 11 will be mailed to them on or shortly after July 26. At the same meeting the stockholders also approved a resolution increasing, by 300,000 of such new shares, the total number of shares authorized for grants of stock options to employees during the next five years.

Witco Reorganizes Sales Force Into Four Regional Units

NEW YORK—Major reorganization of the domestic sales force of the Witco Chemical Co. into four regional units, each under the supervision of a resident regional vice-president, has been announced by Max A. Minnig, executive vice president of the company.

"Responsibility for all sales functions in the region now lies with the four vice presidents who are assuming increased burden," Mr. Minnig said. "Our former system involving nine district offices, was very effective. However, due to increased activities, we have been forced to reorganize and streamline our sales operation."

The Eastern region, embracing the New England states, majority of New York and eastern Pennsylvania, and extending south to the Virginia-

north Carolina state line, will be headed by Michael Vaccaro, whose headquarters will be in New York. Witco's Boston sales office, under the direction of C. W. Grubb will be retained.

The Ohio-Southern region, including the southern states, Ohio and western Pennsylvania, will be supervised by Harry M. Brubaker, with offices in Akron, Ohio. Witco's Atlanta office will be retained under the direction of C. A. Damen.

The Midwest region, extending from Indiana to the Rocky Mountains and south to Texas and Louisiana, will have headquarters in Chicago, under the supervision of Jerome S. Harrison. Witco's Houston office under direction of A. B. Craig, will be retained.

The West Coast region, under direction of Stanley M. Freeman who will continue to be located in Los Angeles, will include all states west of the Rockies. Witco's San Francisco office under supervision of W. J. Butler, will be retained.

CROPLIFE, July 18, 1955-21

Cornelius Haas Named to Stauffer Post

NEW YORK—Cornelius Haas has been appointed manager of the Package and Container section of the Traffic Department of Stauffer Chemical Co. He will be responsible for the specifications and design of all packages and containers and for establishing packaging procedures.

Mr. Haas will report to Mr. John Carlson, director of traffic and transportation, and will be located in New York.

Dr. Ernest Sasscer Dies

STILLWATER, MINN.—Dr. Ernest Sasscer, 72, well known entomologist, died here recently while visiting at the home of T. J. Aamodt, Minnesota state entomologist. Dr. Sasscer was associated with the U.S. Department of Agriculture 49 years before his retirement three years ago. Since then he had been a consultant for the Holland Bulb Growers Assn.



NOW, DIRECT FROM US, PESTMASTER* DDT Technical for your dusts, wettable powders, solutions, and emulsions. This leading brand of 100% DDT is hard, clean, stable. Its use will add kill, stability and uniformity to your formulations. Phone, write or fill in the coupon below for prices, conditions and samples.

Users or exporters of 75% DDT Wettable powder should investigate our PESTMASTER* Brand. Review its resistance to tropical conditions, its uniform wettable and

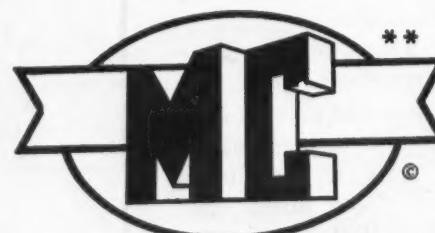
suspension properties, its carefully controlled packaging which preserves its qualities. Remember, PESTMASTER* 75% DDT Wettable does the job when it gets on the job — Asia, Africa, South America, Europe, here at home—wherever you want it. Write for prices, conditions, samples. Use the coupon.

Send a sample of PESTMASTER* DDT Technical Grade (100%) Prices
Send a sample of PESTMASTER* 75% Wettable Prices

Name.....

Company or Government Agency.....

City..... State..... Country.....



MICHIGAN CHEMICAL CORPORATION

501 N. Bankson Street, Saint Louis, Michigan

EASTERN SALES OFFICE
230 Park Avenue
New York 17, New York

*REG. U.S. PAT. OFF. **T.M.

QUALITY PRODUCER OF PESTMASTER* DDT & METHYL BROMIDE AND OTHER AGRICULTURAL CHEMICALS

D-55-1

Croplife

A WEEKLY NEWSPAPER FOR THE FARM CHEMICAL INDUSTRY

The regional circulation of this issue is concentrated in the Southern states.

Watch Those Residues!

Agriculture's era of chemicalization brings with it not only obvious benefits in crop yields and in reducing the grower's unit costs, but also certain responsibilities. In his eagerness to use pesticides, for instance, the grower must not apply materials in excess of accepted standards, nor so late in the season that residues may be greater than those allowed under provisions of the Federal Food, Drug and Cosmetic Act.

Manufacturers of various pesticides have taken great pains to acquire all the data possible regarding toxicity, residues and proper use, but still the message carried on the label is an inert assembly of meaningless words and numerals unless it is read and understood by the user.

Dealers, the last ones to talk to the ultimate consumer before the material in question goes to the farm, should be well informed themselves in order to pass along the necessary information.

Dr. Ordway Starnes, assistant director of the New Jersey Agricultural Experiment Station, has outlined some of the things that users should know before applying pesticidal materials. "The benefits derived from the use of necessary pesticides are shared by the producer and consumer. The two-fold responsibility for their wise use, however, rests with the grower," he says.

"First, the grower's moral obligation is to provide the consumer with produce of high interior quality. This dictates that the use of pesticides which affect the odor or flavor of fruits or vegetables be avoided even though their use might not present a health hazard. Second, the grower's legal obligation is to abide by existing regulations which prohibit offering for shipment fresh fruits or vegetables which are adulterated with pesticides.

"Recognizing that certain pesticides are essential in the protection of fruits and vegetables, the Federal Food, Drug and Cosmetic Act of 1938 has provided for tolerances for such materials. These tolerances establish specified amounts of pesticides which must not be exceeded for fruits and vegetables to be shipped in interstate commerce."

"If excessive amounts are found on or in fruits or vegetables offered for shipment such produce is deemed adulterated and is subject to seizure and condemnation. Shippers of adulterated food may be enjoined from shipping such food in interstate commerce, may be criminally prosecuted, and imprisoned or fined or both. Regulations governing intrastate shipment are usually consistent with Federal regulations governing interstate shipment and under the jurisdiction of state departments of health.

"One group of pesticides has been determined to be exempt from the requirements of a tolerance when they are used in accordance with good agricultural practices on growing crops. These are such pesticides as pyrethrins, rotenone and pyrethrin-oil mixtures. This does not mean that these materials are free from toxicity. It means that the residue either disappears or is rendered non-toxic by the time the crop is marketed. Many of these same materials are not exempt from a tolerance if used after harvest.

"Another group of pesticides is so highly toxic that no residues whatsoever are permitted on the food as it is marketed. This group includes such materials as TEPP, and mercury and selenium compounds for which a zero tolerance has been established. A zero tolerance, however, does not necessarily preclude the use of certain of these materials in crop production. TEPP disappears so rapidly after application that it may still be employed in good commercial practice without leaving harmful residues.

"In addition to these groups there are additional pesticides, important to agriculture, on which action has not yet been taken. In this group are materials such as captan and malathion, pesticides about which there was insufficient evidence to justify a tolerance following the hearings. Such materials are continuing to be studied and may be regulated at an early date. Tolerances established as a result of the 1950 hearing may be amended, repealed or extended to apply to additional crops.

"A tolerance stated in parts per million is not very meaningful to the grower who is without facilities for determining if the residue resulting from the use of a certain material on a particular crop is within the prescribed limits. This is further complicated as the chemical may be present in two different formulations of pesticides used against different pests or at different times; many pesticides in common usage and suggested for continued use on fruits and vegetables have been assigned a tolerance of zero; action to regulate many pesticides in common use has not yet been taken; there is no practical way for the grower to examine or to submit for examination samples of fruits or vegetables to determine if the residue is within the prescribed limits.

"Does the buyer upon receipt of fresh fruits and vegetables assume responsibility in the event pesticide residues contained in or on such produce exceed prescribed limits? In what way will these regulations be enforced?

"Questions on these and numerous other points have already been advanced. In some instances a clearly defined answer is not available. There is, however, a positive and simple answer to the grower's question of what he can do to conform to these regulations.

"The grower can conform to the regulations by following the recommendations of the Agricultural Extension Service concerning materials to use and timing of applications on specific crops. Recommendations by the Agricultural Extension Service for the use of specific pesticides on crops are made only after careful study of existing regulations and knowledge of the residue likely to result from the use of the pesticide in accordance with good control practices under state conditions. There is, however, one possible defect in our recommendations which was not apparent when they were written. The number of pesticides of a given class used on a single crop should always be kept to a minimum. In other words, do not alternate or mix compounds unless it is necessary. Only pesticides manufactured by a reliable concern bearing an approved label should be used. A label bears valuable information pertaining to the safe and effective use of the pesticides. It must be read and observed.

"This simple procedure will insure conformity with existing and pending regulations pertaining to pesticidal residues on fruits and vegetables for fresh market or destined for processing."

Quote

"If the population of the U.S. continues to increase at its present rate and consumption of meat remains at 151.4 pounds a person—the 1952-54 average—it will take 3½ million more cattle, 2½ million more sheep, and nine million more pigs to supply the market in 1962. That's an increase of 10% required in the next seven years.

"At current crop yields, it would take an additional 20 million acres over that used in 1953 to provide feed for this extra livestock. It would require 10 million more acres of hay and pasture and 10 million more acres of feed grains—oats, barley, and grain sorghums. Much of this acreage can be met by shifting from crops now in surplus. The rest will have to be met through increased yields per acre."—Missouri Farm News Service, Columbia, Mo.



CROPLIFE is a controlled circulation journal mailed to those responsible for the production and distribution of fertilizer and other farm chemicals and to retail dealers of the agricultural chemical industry in the U.S. To those not on the controlled list, **CROPLIFE** is available at \$5 for one year, \$9 for two years (\$8 a year outside the U.S. and possessions). Single copy price, 25¢.

LAWRENCE A. LONG

Editor

DONALD NETH

Managing Editor

EDITORIAL STAFF—George L. Gates, Market Editor; John Cipperly, Washington Correspondent; George E. Swarbreck, Canadian and Overseas Editor; Emmet J. Hoffman, Merchandising Editor; L. R. McDonald, Research Director; Frank W. Cooley and Roger Berglund, Assistant Editors.

WILFRED E. LINGREN

Advertising Director

BUSINESS STAFF—Carroll K. Michener, Chairman of the Board of Directors; H. J. Patridge, Honorary Chairman; Harvey E. Yantis, President; Milton B. Kahlstrom, Executive Vice President and Treasurer; Martin E. Newell, Vice President; Don E. Rogers, Vice President; Wilfred E. Lingren, Secretary and Advertising Director; Thomas A. Griffin, Business Manager; Edwin J. Hartwick, Circulation Manager; James G. Patridge, Assistant Treasurer; Carl R. Vetter, Advertising Production Manager; Peter G. Psychogios, Classified Advertising Manager.

BRANCH OFFICES

EASTERN STATES—George W. Potts, Paul L. Dittmore, Co-Managers, 114 East 40th St., New York 16, N. Y. (Tel. Murray Hill 3-3768).

CENTRAL STATES—Don E. Rogers, Manager; Henry S. French, Assistant Manager; 2272 Board of Trade Bldg., 141 W. Jackson Blvd., Chicago 4, Ill. (Tel. Harrison 7-6782).

SOUTHWEST—Martin E. Newell, Manager; James W. Miller, Assistant Manager; 614 Board of Trade Bldg., Kansas City 6, Mo. (Tel. Victor 1350).

WASHINGTON CORRESPONDENT—John Cipperly, 604 Hibbs Bldg., Washington, D. C. (Tel. Republic 7-8534).

EXECUTIVE AND EDITORIAL OFFICES—2501 Wayzata Blvd., Minneapolis, Minn., Tel. Main 0575. Bell System Teletype Service at Minneapolis (MP 179), Kansas City (KC 295), Chicago (CG 340), New York (NY 1-2452), Washington, D. C. (WA 82). Cable Address: "Palmking," Minneapolis.

Published by
The Miller Publishing Co.

2501 Wayzata Blvd.
Minneapolis, Minn.
(Address Mail to P.O. Box 67,
Minneapolis 1, Minn.)

Associated Publications

THE NORTHWESTERN MILLER
THE AMERICAN BAKER
FEEDSTUFFS
MILLING PRODUCTION

MEETING MEMOS

July 20-21—Great Plains Agricultural Ammonia Assn. Midwest Trade Show & Field Day; Business Session for Members July 20 at Hotel Fort Des Moines, Des Moines, Iowa; Field Day July 21 near Ames; James Andrew, Box 447, Jefferson, Iowa, Secretary.

July 27-29—Northeast Branch, American Society of Agronomy, University Park, Pa.

Aug. 1-5—National Shade Tree Conference, Annual Meeting, Mar Monte Hotel, Santa Barbara, Cal., L. C. Chadwick, Secretary-Treasurer, Ohio State University.

Aug. 8-10—Summer Meeting of North Central Division, American Phytopathological Society, Wooster, Ohio; further information from H. C. Young, Dept. of Botany & Plant Pathology, Ohio Agricultural Experiment Station, Wooster, Ohio.

Aug. 9-11—Ohio Pesticide Institute Meeting and Field Tour, Wooster, Ohio; Dr. J. D. Wilson, Ohio Agricultural Experiment Station, Wooster, Secretary.

Aug. 10—Kentucky Fertilizer Conference; Guignol Theatre, University of Kentucky, Lexington.

**Multi-Wall
PAPER
BAGS**

HAMMOND BAG & PAPER CO.
General Offices: Wellsburg, W. Va.
Plants in Wellsburg, W. Va.
Pine Bluff, Ark.—Charlottesville, N. C.

Aug. 15—National Joint Committee on Fertilizer Application, Cooperative Meeting with the American Society of Agronomy, University of California, Davis Campus.

Aug. 15-19—American Society of Agronomy and Soil Science Society of America, University of California, Davis Campus.

Aug. 15-20—Farm & Home Mechanization Pageant, Michigan State College, East Lansing, Mich.

Sept. 7-8—Corn Belt Anhydrous Ammonia Conference, University of Illinois, Champaign-Urbana Campus, Advance Registrations Room 216, Davenport Hall, Urbana, Ill.

Sept. 7-8—Beltwide Cotton Mechanization Conference, Texas A&M College, College Station, Texas, National Cotton Council, P.O. Box 18, Memphis 1, Tenn.

Sept. 7-9—National Agricultural Chemicals Assn., Spring Lake, N.J.; Lea S. Hitchner, NAC Executive Secretary, 1145 19th St. N.W., Washington 6, D.C.

Sept. 7-9—Ninth Annual Beltwide Texas A&M College, National Cotton Council of America, Box 18, Cotton Mechanization Conference, Memphis 1, Tenn.

Oct. 17-18—Fertilizer Section, National Safety Congress, LaSalle Hotel, Chicago; Thomas J. Clarke, Chairman.

Oct. 27—Middle West Soil Improvement Committee, Annual Meeting, Sherman Hotel, Chicago; Z. H. Beers, Executive Secretary, 228 N. LaSalle St., Chicago, Ill.

Nov. 2-3—Annual Convention, Pacific Northwest Plant Food Assn., Pilot Butte Inn, Bend, Ore.; Leon S. Jackson, 702 Lewis Bldg., Portland, Ore., Secretary.

Nov. 4—Fertilizer Section, South Carolina Annual Accident-Prevention Conference, Hotel Francis Marion, Charleston, S.C., Anton L. Foster, International Minerals & Chemical Corp., General Chairman.

Nov. 3-4—Northeastern Division, American Phytopathological Society, Eastern States Farmers Exchange, Inc., 26 Central St., West Springfield, Mass. B. H. Davis, Department of Plant Pathology, Rutgers, University, New Brunswick, N.J., secretary.

Nov. 7-8—California Fertilizer Assn., Thirty Second Annual Convention, Hotel Mark Hopkins, San Francisco; Sidney H. Bierly, Executive Secretary & Manager, 475 Huntington Drive, San Marino, Cal.

Nov. 17-18—Nitrogen Solution Field Day, National Nitrogen Solution Assn., State Armory, Springfield, Ill.; Roy F. Brodyhill, Dakota City, Neb., meeting chairman.

Nov. 29-Dec. 2—Entomological Society of America, Netherlands Plaza Hotel, Cincinnati.

Dec. 5-7—Agricultural Ammonia Institute, Kansas City; Jack F. Criswell, Executive Vice President, Claridge Hotel, Memphis, Tenn.

Dec. 15-16—Beltwide Cotton Production Conference, Hotel Peabody, Memphis, Sponsored by the National Cotton Council.

Classified Ads

Classified advertisements accepted until Tuesday each week for the issue of the following Monday.

Rates: 15¢ per word; minimum charge \$2.25. Situations wanted, 10¢ a word; \$1.50 minimum. Count six words of signature, whether for direct reply or keyed care this office. If advertisement is keyed, care of this office, 20¢ per insertion additional charged for forwarding replies. Classified advertising rate not available for commercial advertising. Advertisements of new machinery, products and services accepted for insertion at minimum rate of \$9 per column inch. All Want Ads cash with order.

BUSINESS OPPORTUNITIES

FERTILIZER PLANT - CHEMICAL PLANT located 50 miles from Minneapolis. Rich farming area. Ideally equipped for conversion to manufacturing liquid fertilizers. The price is right. Address 903, Croplife, Minneapolis 1, Minn.

HELP WANTED

MANUFACTURER'S AGENT: AGGRESSIVE men experienced in sales to handle old, reliable line of insecticides, fungicides, and soluble fertilizers including very popular new specialty product in fly control field. Salesman now calling on dealers and jobbers who handle farm or home garden pesticides preferred. Write details, experience, lines now handled and other qualifications. Address 949, Croplife, Minneapolis 1, Minnesota.

MISCELLANEOUS

Utah and Wyoming

PHOSPHATE ROCK

All Grades
Pearl Phosphate Co.
153 N. Willow Ave.
West Contra, California

Croplife Want Ads...
Get Results

INDEX OF ADVERTISERS

Abrasion & Corrosion Engineering Co.	Fischbein, Dave, Co.	Pacific Coast Borax Co.	17
Acme Fisher Div., Broadway Corp.	Floridin Company.	Pacific Plastics Company.	
Acme Protection Equipment Co.	Frontier Chemical Co.	Pennsylvania Salt Manufacturing Company of Washington.	2
Agricultural Chemicals Division, Pittsburgh Coke & Chemical Co.	Gandrud, E. S., Co.	Chas. Pfizer & Co., Inc.	
Agricultural Chemical Equipment Co.	Geigy Agricultural Chemical Co.	Phelps-Dodge Refining Corp.	
Allied Chemical & Dye Corp., General Chemical Division.	General Chemical Division, Allied Chemical & Dye Corp.	Phillips Chemical Company.	
Allied Chemical & Dye Corp., Nitrogen Div.	Gotcher Engineering & Mfg. Co.	Pittsburgh Coke & Chemical Company, Agricultural Chemicals Division.	
American Potash & Chemical Corp.	Grace Chemical Co.	Potash Company of America.	
Anco Manufacturing & Supply Co.	Grand River Chemical Div., Deere & Co.	Poulson Company.	
Aschcraft-Wilkinson Co.	Hahn, Inc.	Powell, John, & Co., Inc.	
Bagpak Division, International Paper Co.	Hammond Bag and Paper Co.	Private Brands, Inc.	
Baker, H. J., & Bro.	Henderson Mfg. Co.	Rapids Machinery Co.	
Baughman Manufacturing Co., Inc.	Hercules Powder Co.	Riverdale Chemical Co.	
Beaird, J. B., Company.	Highway Equipment Co.	Savage, K. E., Co.	
Bemis Bro. Bag Co.	Hills-McCanna Co.	Schrock Fertilizer Service.	
Bradley & Baker.	Hypro Engineering, Inc.	Shell Chemical Corp.	5
Broadway Rubber Corp.	International Minerals & Chemical Corp.	Sohio Chemical Co.	
Burkhardt-Larsen Co.	International Paper Co., Bagpak Division.	Specifide, Inc.	
Burrows Equipment Co.	K. B. H. Corporation, The.	Spencer Chemical Co.	13
Cutter Manufacturing Co.	Ketona Chemical Corporation.	Spray Dust, Inc.	
Calcium Carbonate Co.	Kay Enterprises.	Stoker, H. S., Company.	
California Spray-Chemical Corp.	Kraft Bag Corporation.	Tennessee Corp.	
Campbell, H. D., Co.	Laryacide Products, Inc.	Thompson-Hayward Chemical Co.	
Chase Bag Co.	Lion Oil Co.	Umbaugh Agricultural Chemical Co.	
Clipman Chemical Co.	The Mackwin Co.	Union Bag and Paper Corp.	
Clover Chemical Co.	Markley Laboratories, The.	United Petroleum Gas Co.	
Commercial Solvents Corporation.	Wilson & George Meyer & Co.	U.S. Industrial Chemicals Co.	
Croplife.	Michigan Chemical Corporation.	United States Phosphoric Products Division Tennessee Corp.	
Deere & Co., Grand River Chemical Div.	Midstate Machinery Co.	United States Potash Co.	
Diamond Alkali Company.	Midwestern Spray-Chemical Co., Inc.	U.S. Rubber Co., Naugatuck Chemical Div.	19
Doane Agricultural Service.	Naugatuck Chemical Div., U.S. Rubber Co.	United States Steel Corp.	
Enco, Inc.	Nelson, Edward S., Ltd.	Velsicol Corporation.	
Douglas Chemical Co.	Niagara Chemical Division Food Machinery and Chemical Corp.	Virginia-Carolina Chemical Corp.	7
E.I. DuPont de Nemours & Co., Inc.	Nitrogen Div., Allied Chemical & Dye Corp.	Vulcan Containers, Inc.	
Ellsworth Equipment Co.	Northern Chemical Industries.	Vulcan Steel Container Co.	
Export Chemical Corp. of Colorado.	Olin Mathieson Chemical Corporation, Insecticides Division.		



TOXAPHENE IS BEST.—"We used toxaphene altogether, then for a couple of years tried other dusts," said Jack McLemore, Jr., R.F.D. 5, Montgomery, Alabama. "Now we've gone back to toxaphene as it gives us our best control."

TOXAPHENE—ONE INSECTICIDE THAT DOES THE WORK OF MANY

You don't need a different insecticide for every pest. Cotton states recommend toxaphene formulations for swift, effective control of a wide variety of cotton insects. And many cotton farmers tell us that toxaphene applications in late season give such good protection of the still tender top crop that yields are boosted enough to pay for the whole season's insecticide bill.

Farmers who rotate their land to root crops prefer toxaphene insecticides, too. Tests and actual experience show that toxaphene does not contaminate the soil—does not impart off-flavor to root crops.

Your dealer has supplies of toxaphene dusts or spray materials. Protect your valuable crop through to picking time. Control cotton insect pests with toxaphene.

TOXAPHENE dusts • sprays

THE CHEMICAL BASE FOR TOXAPHENE IS PRODUCED BY HERCULES FROM THE SOUTHERN PINE



PROVED IT FOR HIMSELF—Talley Smith, Rowesville, South Carolina, uses toxaphene exclusively. "I built my own insect cages and tested the effects of different insecticides," Mr. Smith reports. "My tests proved to me that toxaphene kills more pests of cotton and gives longer protection."

Agricultural Chemicals Division
Naval Stores Department
HERCULES POWDER COMPANY INCORPORATED

931 Market St., Wilmington 99, Del.
Plants at Brunswick, Ga., Hattiesburg, Miss.
Offices at Atlanta, Birmingham, Brownsville,
Dallas, Los Angeles, Raleigh

NX55 14